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SIXTY-FIFTH QUARTERLY REPO

OF THE

Department of Public

OF THE

CITY OF PROVIDENCE, R.

QUARTER ENDING MARCH 31,

The Providence Press:
Snow & Farnham, City Prin
15 Custom House Street.
1899.

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SIXTY-FIFTH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING MARCH 31, 1899.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., April 1, 1899.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter IV. of the ordinances, the Commissioner of Public Works respectfully presents the sixty-fifth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending March 31, 1899:

WATER WORKS.

March 15th, the proposal of John R. White & Son to furnish and deliver at Hope Pumping Station one hundred tons of egg coal at $4.75 per ton, was accepted.

The average daily consumption of water during the last quarter was 9,291,065 gallons.

Water pipes were laid during the quarter as follows:

8-INCH.	
In Admiral street, and in Fruit Hill avenue in the town of North Providence	61.56 feet.
6-INCH.	
In Chambers, Loveday, Printery, and Seabury streets; in Doyle, Huntington, and Wayland avenues; and in Smith street in the town of Cranston	2,052.87 feet.
Total	2,114.43 feet.

or, .400 + mile.

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Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,590.79 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	92,817.16 feet.
10-inch	15,057.14 feet.
8-inch	262,487.52 feet.
6-inch	1,133,749.36 feet.
Total	1,662,825.81 feet.

or, 314.929+ miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection, since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Four fire hydrants have been set during the quarter, one in each of the following locations:

Admiral street, north side, northwest corner of Loveday street.
Aleppo street, north side, northwest corner of Pelham street.
Fruit Hill avenue, North Providence, west side, 6 feet south of south building line of Metcalf avenue.
Veazie street, east side, 71 feet north of north building line of Concannon street.

The total number of fire hydrants, exclusive of hydrants for special service for fire protection, is now eighteen hundred and nineteen — seventeen hundred and forty-two flush, and seventy-seven post hydrants.

The total number of fire hydrants on the special water service for fire protection is ninety-one.

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During the quarter two hundred and sixty-six water meters were set, of which number eighty-five were to replace other meters. The use of eight meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts, piston	3,058	607	146	21	7	.....	.....	.....	3,839
Ball & Fitts, rotary	.....	.....	10	15	1	3	2	.....	31
Crown	7,731	799	246	112	27	16	17	.....	8,948
Empire	133	22	14	17	3	.....	.....	.....	189
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	7	15	8	1	31
Thomson	2,913	408	76	54	22	7	7	3	3,490
Trident	28	.....	.....	.....	.....	.....	.....	.....	28
Worthington	1	1	.....	.....	1	.....	1	.....	4
	13,864	1,837	493	219	68	41	35	4	16,561

One hundred and fifteen plumbers' licenses were issued during the quarter, all of which expire Dec. 31, 1899.

Six hundred and forty-eight permits to do plumbing work were issued during the quarter.

Seventy-eight applications for water were made during the quarter, making the total number March 31, 1899, twenty-three thousand and forty-five.

The number of new service stops opened during the quarter was fifty-three.

The total number of service stops opened to March 31, 1899, inclusive, was twenty-two thousand, three hundred and

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fifty-two. The number in actual use March 31, 1899, was twenty thousand four hundred and twenty-seven.

The amount of bills approved on account of water works from January 1 to March 31, 1899, inclusive, was:

For construction and extension, . . . $9,473 25

Classified as follows:

Cast iron pipe	$5,201 72
Stop valves	1,050 00
Laying water pipes	925 61
Laying service pipes	687 11
Special castings	685 83
Taps and stops	358 20
Wharf salaries	214 50
Barn expenses	204 13
Tools	63 33
Labor on and carting pipe	36 47
Horses, wagons, harnesses, etc	33 05
Patterns for special castings	7 00
Sundries	6 30
	$9,473 25

For maintenance, ... $19,194 81

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$2,327 92	
Sundries	679 24	
Engineers	525 33	
Firemen	413 30	
Corliss pumping engine and house	409 30	
Cornish engine house	358 10	
Superintendence	299 00	
Worthington high-duty pumping engine	129 08	
Oil, waste, and packing	104 93	
Care of grounds	66 05	
Barn expenses	54 51	
Labor on fuel	42 90	
Lights	11 42	
		$5,421 08
Amount carried forward		$5,421 08

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Amount brought forward		$5,421 08
SOCKANOSSET RESERVOIR.		
Watchman	$182 00	
Sundries	132 65	
		314 65
HOPE PUMPING STATION.		
Firemen	$418 60	
Engineers	299 00	
Coal and wood	95 00	
Lights	76 65	
Sundries	18 80	
Holly pumping engine	50	
Repairs on boilers	05	
		908 60
HOPE RESERVOIR.		
Sundries	$244 96	
Watchman	204 75	
		449 71
FRUIT HILL RESERVOIR.		
Watchman	$204 75	
Sundries	138 17	
		342 92
PIPE LINE AND SERVICE STOPS.		
Repairs	$3,347 16	
Superintendence — salaries	848 25	
		4,195 41
METER DEPARTMENT.		
Water meters	$3,032 01	
Setting and repairing meters	1,917 06	
		4,949 07
MISCELLANEOUS.		
Clerks' and inspectors' salaries	$1,470 36	
Prevention of defilement of the Pawtuxet	549 99	
Barn expenses	244 57	
Analyses of water	180 00	
Horses, wagons, harnesses, etc	60 25	
Pipe yard, office expenses	50 28	
Sundries	50 00	
Public drinking fountains and troughs	7 92	
		2,613 37
		$19,194 81

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The amount of expenditures from January 1 to March 31, 1899, inclusive, was . $28,668 06

The total expenditures to March 31, 1899, inclusive, were $8,792,607 82

The *net* expenditure for construction and extension from January 1 to March 31, 1899, inclusive, was	$8,970 63
The *net* expenditure for construction and extension to March 31, 1899, inclusive, was	$6,426,669 96
The *net* expenditure for maintenance from January 1 to March 31, 1899, inclusive, was	$13,353 66
The *net* expenditure for maintenance to March 31, 1899, inclusive, was	$1,491,508 98

The value of the water works system, January 1, 1899, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	140,908 47	
Sockanosset, Hope, and Fruit Hill reservoirs	744,112 71	
Main lines and distribution pipes	2,751,986 38	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	41,176 49	
		$4,034,853 05

Bills deposited with the city treasurer for collection from January 1 to March 31, 1899, inclusive, amounted to . . $368,112 00

As follows:

Water	$361,266 37
Water meters	3,995 25
Setting and repairing meters	1,928 94
Penalties	162 00
Rent of real estate	158 20
Permanently closing service stops	45 00
Repairs on pipe line	31 31
Labor and material, laying service pipes, etc	515 55
Scrap lead	9 38
	$368,112 00

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $365,093 63

As follows:

Water	$358,587 86
Water meters	3,670 25
Setting and repairing meters	1,825 89
Rent of real estate	173 60
Penalties	162 00
Repairs on pipe line	121 41
Permanently closing service stops	50 00
Labor and material, laying service pipes, etc	493 24
Scrap lead	9 38
	$365,093 63

SEWERS.

During the quarter ending March 31, 1899, one hundred and sixty-four permits were issued to drain layers — one hundred and two for new work, and sixty-two for extension and repairs of drains.

Forty drain layers' licenses were issued during the quarter, all of which expire December 31, 1899.

During the quarter, the construction of the following sewer was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
357.	Sept. 26, 1898,	*Brayton avenue and across land of the N. Y., N. H. and H. R. R. Co.,* .	Feb. 4, 1899.

At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

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No. of resolution.	Date of approval.	
406.	July 15, 1889,	*Section 2, Sewage Precipitation Tanks, Improved Sewerage System.*
572.	Dec. 20, 1895,	*Section 21, Moshassuck Division, Improved Sewerage System.*
572.	" " "	*Section 22, Moshassuck Division, Improved Sewerage System.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
260.	July, 8, 1898,	*Manton avenue, from Erastus street to King, and from Sisson to Unit.*
261.	" " "	*Plainfield street and Olneyville square.*
358.	Sept. 26, "	*West Exchange and Gaspee streets.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced March 31, 1899, namely:

No. of resolution.	Date of approval.	
443.	Dec. 21, 1898,	*Angell street and Blackstone park.*
122.	March 24, 1899,	*Exchange place, from Exchange street to Dorrance.*
123.	" " "	*Hawthorne, French, Spencer, and Waldo streets.*
124.	" " "	*Mulberry, State, and Holden streets.*
125.	" " "	*Morris avenue, Olney street, and Elmgrove avenue.*
126.	" " "	*Union, Webster, and Pocasset avenues.*

The amount of bills approved on account of sewers from January 1 to March 31, 1899, inclusive, was as follows:

FOR CONSTRUCTION.

Regular appropriation	$5,670 39	
Improved sewerage appropriation	27,180 51	
		$32,850 90

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Charged as follows:

Material	$3,572 33
Salaries of assistant engineers	2,056 00
Additional catch-basins	559 79
Contract reservations	338 00
Testing cement	274 27
Sundries	230 00
Patterns for sewer castings	45 00
Sundries, improved sewerage system	18 38
Tools	8 79
Sewer in Brayton avenue and across land of the New York, New Haven, and Hartford Railroad Company	997 58
Sewer in Manton avenue, from Erastus street to King, and from Sisson to Unit	558 94
Sewer in Parnell street, from its northerly termination to Atwells avenue	56 25
Sewer in Plainfield street and Olneyville square	303 48
Sewer in West Exchange and Gaspee streets	1,029 64
Grading grounds at Ernest street station	124 28
Sewer in Manton avenue and King street	58 99
Sewer in Moshassuck Division, Section 21	644 43
Sewer in Moshassuck Division, Section 22	14,621 52
Sewer in Woonasquatucket Division, Section 23	115 44
Sewage precipitation tanks	7,237 79
	$32,850 90

For maintenance, ... $11,987 31

Classified as follows:

Cleaning basins and sewers	$5,304 01
Repairing basins and sewers	1,321 37
Inspection of connections	649 08
Cleaning and repairing old drains	645 15
Salary — superintendent	442 00
Barn expenses	326 40
Tools	246 66
Office expenses	50 31
Horses, wagons, harnesses, etc	49 59
Cleaning private connections	19 80
Repairs on buildings at sewer maintenance yard	10 63
Filling cisterns, etc	10 50
Sundries	9 85

ERNEST STREET STATION.

Engineers	730 83
Coal and wood	650 51
Amount carried forward	$10,466 69

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Amount brought forward	$10,466 69
Cleaning screens	590 01
Firemen	397 00
Cleaning and repairing pumps	168 86
Supplies	160 26
Repairs on engines	89 57
Lights	70 12
Care of grounds	44 80
	$11,987 31

The *net* expenditure for construction of sewers to March 31, 1899, inclusive, was $6,327,820 62

The *net* expenditure for maintenance of sewers to March 31, 1899, inclusive, was $626,302 81

Bills deposited with the city treasurer for collection from January 1 to March 31, 1899, inclusive, amounted to . . $1,344 39

As follows:

Cleaning private connections	$35 25
Miscellaneous work	18 98
Filling cisterns, etc	3 50
Sewer material	1,264 96
Testing cement	21 70
	$1,344 39

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $1,420 17

As follows:

Miscellaneous work	$110 13
Cleaning private connections	35 25
Filling cisterns, etc	7 35
Sewer material	1,267 44
	$1,420 17

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HIGHWAYS.

Three permits to open streets were issued during the quarter.

March 8th, the proposal of the Taylor Iron and Steel Company to furnish a 48-inch, inside diameter, manganese steel screen and appurtenances, mounted on I beam frames, for the stone crusher at Henderson street, for the sum of thirteen hundred dollars, was accepted.

March 21st, the proposal of Crabtree & Havey, of North Sullivan, Maine, to furnish and deliver 10,000 linear feet straight granite curbing, for the sum of forty-six cents per foot, was accepted.

Statements have been prepared of the cost of curbstones set, ascertained by the commissioner and certified to the board of aldermen for approval, as follows:

King street, from Manton avenue to Sheridan street	$1,702 55
Lexington avenue, from Hamilton street to Broad	1,700 08
Peace street, from Elmwood avenue to Bucklin street	1,100 35
Power street, from Ives to Gano	794 17
Promenade street, from present end of pavement near railroad bridge to Steeple street, (portion of)	174 51
Roger street, from Power to Williams	313 20
Whitmarsh street, from Updike to Elmwood avenue	966 61
Total	$6,751 47

The following resolutions to build streets were repealed by Resolution No. 121, approved March 24, 1899, namely:

To Pave with Granite Blocks.

No. of resolution. Date of approval.

351. Sept. 23, 1898, *Canal street extension and Mill street.*

To Pave with Asphalt.

352. Sept. 23, 1898, *Mathewson street, from Westminster to Weybosset.*

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During the quarter, the following work was completed:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
Oct. 20, 1898,	*King street, from Manton avenue to Sheridan street.*

The following work was in progress March 31, 1899, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
May 16, 1895,	*Promenade street, from present end of pavement near railroad bridge to Steeple street:* — three-fourths completed.
Sept. 15, 1898,	*Canal street extension and Mill street:* — one-half completed.

TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution.	Date of approval.	
151.	April 5, 1895,	*Promenade street, from present end of pavement near railroad bridge to Steeple street:* — one-half completed.

TO BUILD.

257.	July 8, 1898,	*Exchange place and West Exchange street:* — curbing set.

TO REMOVE BUILDING AND GRADE.

320.	Sept. 13, 1898,	*Old passenger station, Exchange place and adjoining lands:* — nearly completed.

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To Build and Curb.

No. of resolution.	Date of approval.	
350.	Sept. 23, 1898,	*Lexington avenue, from Hamilton street to Broad:* — gutters to be concreted.

To Build Iron Fence.

364.	Oct. 6, 1898,	*Approaches to the new passenger station.*

To Pave with Asphalt.

353.	Sept. 23, 1898,	*Washington street extension, from West Exchange to near Exchange bridge:* — in process.

The following work, ordered by the board of aldermen and city council, had not commenced March 31, 1899, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
Dec. 16, 1897,	*Arlington avenue, east side, from Irving to University.*
" " "	*Ayrault street, from Valley to Chalkstone avenue.*
" " "	*Black street, from Orms to Chalkstone avenue.*
" " "	*Foster street, from Broad to Pine.*
" " "	*Wayne street, from Nolan to Candace.*
" " "	*West Park street, from Holden to Senter.*
June 16, 1898,	*Arlington avenue, east side, from University to Lloyd.*
" " "	*Columbia avenue, from Broad street to Roger Williams Park.*
Sept. 15, "	*Power street, from Governor to Ives.*
" " "	*Irving street, from Emerson to Broad.*
Oct. 20, "	*Doyle avenue, from Morris to Elmgrove.*
Dec. 15, "	*Huntington avenue, from Carter street to Jackson avenue.*
" " "	*Wayland avenue, from Elton street to Irving avenue.*

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To Put in Good Condition.

Date of order.	
Sept. 16, 1897,	*Irving avenue, from Grotto to its easterly termination.*

To Take Possession.

Dec. 15, 1898,	*Charles street, from Lock to Randall square.*

To Grade and Repair when Abutting Owners Curb and Pave Gutters.

March 23, 1899,	*Elmgrove avenue, from Irving to President.*

To Build and Curb.

No. of resolution.	Date of approval.	
350.	Sept. 23, 1898,	*Arlington avenue, east side, from Irving to University.*
350.	" " "	*Ayrault street, from Valley to Chalkstone avenue.*
350.	" " "	*Black street, from Orms to Chalkstone avenue.*
350.	" " "	*Wayne street, from Nolan to Candace.*
350.	" " "	*West Park street, from Holden to Senter.*
350.	" " "	*Arlington avenue, east side, from University to Lloyd.*
350.	" " "	*Columbia avenue, from Broad street to Roger Williams Park.*

To Grade, when Union Railroad Company is Authorized to Extend its Rails.

455. Dec. 30, 1898,	*Douglas avenue, from Chad Brown street to Admiral.*

To Buy and Set Stone Bounds.

478. Jan. 2, 1899,	*New boundary line between the city of Providence and the town of Johnston.*

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To Pave with Granite Blocks.

No. of resolution.	Date of approval.	
96.	March 7, 1899,	*Charles street, from Lock to Randall square.*
121.	" 24, "	*Canal street extension and Mill street.*

To Pave with Asphalt.

121.	March 24, 1899,	*Mathewson street, from Westminster to Weybosset.*

Bills approved on account of highways from January 1 to March 31, 1899, inclusive, amounted to:

Regular appropriation	$48,150 77	
Special appropriation	1,616 11	
Special credit appropriation	575 18	
		$50,342 06

Classified as follows:

Crushed stone--material and labor	$13,574 28	
Removing snow and ice	10,955 36	
Cleaning streets	5,551 83	
Tools, implements, etc	3,290 20	
Blacksmith and wheelwright shop	3,001 22	
Barn expenses	2,088 69	
Steam rollers — repairs and supplies	2,061 52	
Repairs on unpaved streets	1,338 81	
Labor on material	1,100 25	
Repairs on paved streets	932 18	
Repairs on stone crushers	717 81	
Salary — superintendent	442 00	
Horses, wagons, harnesses, etc	434 14	
Stone — paving and crosswalk	297 55	
Watchman at city yard	156 00	
Office expenses—city yard	139 59	
Sundries	86 68	
Fencing streets—material and labor	36 44	
Building driveways, etc.	12 00	
		$46,216 55
Amount carried forward		$46,216 55

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Amount brought forward		$46,216 55

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Ayrault street, from Valley to Chalkstone avenue.	$69 54	
Columbia avenue, from Broad street to Roger Williams park	110 39	
King street, from Manton avenue to Sheridan street	1,605 33	
Lexington avenue, from Hamilton street to Broad	50 08	
Peace street, from Elmwood avenue to Bucklin street	575 18	
		2,410 52

Pave with Granite Blocks.

Canal and Mill streets		47 73

Pave with Trinidad Asphalt.

The two approaches to the proposed depot in Exchange place	$1,616 11	
The extension of Washington street, from West Exchange to near Exchange bridge	51 15	
		1,667 26
		$50,342 06

Bills deposited with the city treasurer for collection from January 1 to March 31, 1899, inclusive, amounted to $8,165 45

As follows:

Union Railroad Company, for foundations on depot approaches	$6,276 03
Labor and material	670 71
Blacksmith work for other departments	547 56
Boarding horses for other departments	310 35
Street sweepings	171 00
Narragansett Electric Lighting Company, for asphalt pavement	107 80
Manure from barn	72 00
Old lumber	10 00
	$8,165 45

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . . . $2,186 24

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As follows:

Labor and material	$1,255 62
Boarding horses for other departments	310 35
Blacksmith work for other departments	289 95
Street sweepings	171 00
Use of steam roller	87 32
Manure from barn	72 00
	$2,186 24

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from January 1 to March 31, 1899, inclusive, amounted to $2,490 39

Charged as follows:

Granite curbing	$1,260 78
Concreting sidewalks	567 26
Repairing sidewalks and gutters	509 32
Iron fence on approaches to new passenger station.	153 03
	$2,490 39

Bills deposited with the city treasurer for collection from January 1 to March 31, 1899, inclusive, amounted to $6,959 40

As follows:

Curbing bills	$6,780 47
Concreting sidewalks	178 93
	$6,959 40

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . . . $660 87

As follows:

Curbing bills	$442 94
Concreting sidewalks	217 93
	$660 87

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CITY ENGINEER.

Bills approved on account of the city engineer's department, from January 1 to March 31, 1899, inclusive, amounted to . . . $12,545 27

As follows:

Salary — city engineer	$1,125 00
Salaries of assistants	10,223 33
Salaries of clerks	763 75
Car fares	203 72
Supplies — drawing material, etc	190 70
Sundries	36 77
Instruments and repairs	2 00
	$12,545 27

Bills deposited with the city treasurer for collection from January 1 to March 31, 1899, inclusive, (for steel tape), amounted to . . .25

During the quarter, coupons from bills collected have been returned by the city treasurer, (for steel tape sold), and receipted for, to the amount of 25

BRIDGES.

March 20th, the proposal of Narragansett Improvement Company to relay an asphalt pavement on the driveways of Randall street and Charles street bridges, for the sum of $1.70 per square yard, was accepted.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
158.	April 20, 1897,	*Weybosset bridge and river walls.*
187.	May 20, 1898,	*Weybosset bridge extension.*

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The following work had not commenced March 31, 1899, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*
95.	" " "	*Mill street bridge over the Moshassuck river.*

Bills approved on account of bridges from January 1 to March 31, 1899, inclusive, amounted to $4,510 75

Charged as follows:

Acorn street bridge	$2 10
Barn expenses	81 18
Building at city yard	8 38
Crawford street bridge	79 71
Horses, wagons, harnesses, etc	10 50
Lumber, hardware, etc	216 06
Mill street bridge	8 75
Point street bridge	1,136 11
Randall street bridge	3 97
Red bridge	146 92
Rent of keeper's house, Washington bridge	30 00
Salaries—Point street bridge	978 25
Salaries—Red bridge	500 10
Salaries—Washington bridge	484 87
Sundries	410 46
Tools	215 73
Washington bridge	174 46
Weybosset bridge	23 20
	$4,510 75

Bills deposited with the city treasurer for collection from January 1 to March 31, 1899, inclusive, amounted to $692 29

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As follows:

Union Railroad Company, for granite blocks, etc..	$622 16
Schooner Harriet C. Whitehead, for repairs on Point street bridge	38 68
Lumber furnished other departments	31 45
	$692 29

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $1,877 29

As follows:

New York, New Haven and Hartford Railroad Company, for granite blocks, etc	$1,185 00
Union Railroad Company, for granite blocks, etc..	622 16
Schooner Harriet C. Whitehead, for repairs on Point street bridge	38 68
Lumber furnished other departments	31 45
	$1,877 29

Bills approved on account of rebuilding the Weybosset bridge and river walls, from January 1 to March 31, 1899, inclusive, have been paid from the special appropriation for that work, to the amount of $20,707 57

PUBLIC WORKS OFFICE.

Bills approved on account of the public works office, from January 1 to March 31, 1899, inclusive, amounted to $5,089 06

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,031 19
Office supplies	132 87
	$5,089 06

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CONTINGENCIES.

Bills approved from January 1 to March 31, 1899, inclusive, for account of removing the old passenger station and grading the adjoining lands, have been paid from the appropriation for contingencies to the amount of	$578 75

ROBERT E. SMITH,

Commissioner.

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1899.] CITY DOCUMENT. [No. 20.

SIXTY-SIXTH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING JUNE 30, 1899.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
23 Custom House Street.
1899.

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SIXTY-SIXTH QUARTERLY REPORT

OF THE

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OF THE

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., July 1, 1899.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter IV. of the ordinances, the Commissioner of Public Works respectfully presents the sixty-sixth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending June 30, 1899:

WATER WORKS.

May 3d, the offer of The A. P. Smith Manufacturing Company to furnish a No. 1 Smith Tapping Apparatus for making connections to water mains, for the sum of four hundred and fifty dollars, was accepted.

June 2d, the proposal of The Aultman & Taylor Machinery Company, of Mansfield, Ohio, to furnish and set at Pettaconset Pumping Station, two Babcock and Wilcox boilers of 160 horse power each, for the sum of $5,442.00, was accepted and a contract subsequently executed.

June 3d, the proposal of John R. White & Son to furnish and deliver at Hope Pumping Station four hundred tons egg coal, for the sum of $4.50 per ton, was accepted.

The average daily consumption of water during the last quarter was 9,622,536 gallons.

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Water pipes were laid during the quarter as follows:

8-INCH.

In Charles and Pontiac streets; and in Pontiac street in the town of Cranston	1,305.67 feet.

6-INCH.

In Barnaby, Berkley, Calla, Case, Columbus, Cove, Exchange street extension, Glover, Hancock, Hempstead, Robin, Sawyer, Seventh, St. James and Tappan streets; in Elmgrove, Health, Lenox, Silver Lake, Union and Winthrop avenues; and in Doane street and Haven avenue in the town of Cranston	4,275.85 feet.
Total	5,581.52 feet.

or, 1.057 + miles.

Water pipes were removed or abandoned during the quarter, as follows:

8-INCH.

In Aleppo street	190.49 feet.

6-INCH.

In approach to new depot, and in Comfort street	384.48 feet.
Total	574.97 feet.

or, .108+ mile.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,590.79 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	92,817.16 feet.
10-inch	15,057.14 feet.
8-inch	263,602.70 feet.
6-inch	1,137,640.73 feet.
Total	1,667,832.36 feet.

or, 315.877+ miles.

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Statement of sizes and lengths of pipe laid for the special water service for fire protection, since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Thirteen fire hydrants have been set during the quarter, one in each of the following locations:

Broad street, east side, on range of north building line of Youlden.
Broad street, east side, on range of north building line of Fisk.
Carleton street, southeast corner of Beaufort.
Charles street, east side, 136 feet south of city line.
Elbow street, east side, 5.2 feet south of Ashcroft.
Geneva street, east side, 274 feet north of north building line of Andem.
Globe street, south side, 373 feet east of Eddy.
Grant street, south side, 427.5 feet west of Knight.
Harrison street, west side, 141 feet north of Durfee.
Pemberton street, southeast corner of Beaufort.
Union avenue, northeast side, corner of Silver Lake.
Warren street, southwest corner of Fuller.
Westfield street, south side, 9 feet east of Dexter.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred and thirty-two — seventeen hundred and fifty-five flush, and seventy-seven post.

The total number of fire hydrants on the special water service for fire protection is ninety-one.

During the quarter, two hundred and forty water meters were set, of which number fifty-seven were to replace other meters. The use of eleven meters was discontinued.

The following meters were in use at the close of the quarter:

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Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	3,013	605	142	21	7	.....	.....	.....	3,788
Ball & Fitts, rotary	.....	.....	10	15	1	2	3	.....	30
Crown	7,815	804	248	112	28	18	17	.....	9,042
Empire	170	23	17	20	3	.....	.....	.....	233
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	8	18	9	1	36
Thomson	2,985	419	76	53	22	7	7	3	3,572
Trident	28	.....	.....	.....	.....	.....	.....	.....	28
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	14,012	1,852	494	221	70	45	35	4	16,733

Five plumbers' licenses were issued during the quarter, making the total number one hundred and twenty-two, all of which expire December 31, 1899.

Nine hundred and sixty-six permits to do plumbing work were issued during the quarter.

Two hundred and twenty applications for water were made during the quarter, making the total number, June 30, 1899, twenty-three thousand two hundred and sixty-five.

The number of new service stops opened during the quarter was two hundred and fifteen.

The total number of service stops opened to June 30, 1899, inclusive, was twenty-two thousand five hundred and sixty-seven. The number in actual use June 30, 1899, was twenty thousand seven hundred and eighty-four.

The amount of bills approved on account of water works from April 1 to June 30, 1899, inclusive, was :

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For construction and extension, ... $4,719 18

Classified as follows:

Laying water pipe	$2,055 86	
Laying service pipe	965 53	
Tools	671 73	
Barn expenses	260 79	
Wharf salaries	214 50	
Public drinking troughs	148 00	
Labor on and carting pipe	108 68	
Special castings	102 51	
Test wells at Pettaconset	78 75	
Taps and stops	53 67	
Horses, wagons, harnesses, etc	39 50	
Fire hydrants, boxes and covers	11 90	
Cast iron water pipe	4 33	
Patterns for special castings	1 58	
Stop valves	1 25	
Repairs on pipe yard buildings	60	
	$4,719 18	

For maintenance, ... $22,742 40

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$3,202 02	
Sundries	566 26	
Engineers	525 33	
Firemen	425 65	
Superintendence	299 00	
Barn expenses	238 41	
Worthington high-duty pumping engine	122 24	
Care of grounds	107 49	
Corliss pumping engine and house	91 63	
Labor on fuel	62 35	
Oil, waste, and packing	61 06	
Worthington pumping engine	33 00	
Cornish engine house	9 18	
Real estate	3 15	
Lights	3 03	
		$5,749 80

SOCKANOSSET RESERVOIR.

Sundries	$209 61	
Watchman	182 00	
		391 61
Amount carried forward		$6,141 41

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Amount brought forward		$6,141 41

Hope Pumping Station.

Coal and wood	$2,275 00	
Firemen	422 60	
Engineers	299 00	
Care of grounds	107 50	
Lights	70 35	
Sundries	57 92	
Holly pumping engine	7 55	
		3,239 92

Hope Reservoir.

Sundries	$381 66	
Watchman	204 75	
		586 41

Fruit Hill Reservoir.

Sundries	$635 62	
Watchman	204 75	
		840 37

Pipe Line and Service Stops.

Repairs	$3,576 18	
Superintendence — salaries	856 23	
		4,432 41

Meter Department.

Water meters	$3,010 85	
Setting and repairing meters	1,541 78	
		4,552 63

Miscellaneous.

Clerks' and inspectors' salaries	$1,477 32	
Prevention of defilement of the Pawtuxet	549 99	
Horses, wagons, harnesses, etc	393 42	
Sundries	177 82	
Barn expenses	129 43	
Analyses of water	90 00	
Public drinking fountains and troughs	42 83	
Telephone lines	36 00	
Pipe yard, office expenses	29 94	
Real estate at Pawtuxet	22 50	
		2,949 25
		$22,742 40

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The amount of expenditures from April 1 to June 30, 1899, inclusive, was . . $27,461 58

The total expenditures to June 30, 1899, inclusive, were $8,820,069 40

The *net* expenditure for construction and extension from April 1 to June 30, 1899, inclusive, was	$3,374 74
The *net* expenditure for construction and extension to June 30, 1899, inclusive, was	$6,430,044 70
The *net* expenditure for maintenance from April 1 to June 30, 1899, inclusive, was	$14,854 23
The *net* expenditure for maintenance to June 30, 1899, inclusive, was	$1,506,363 21

The value of the water works system, January 1, 1899, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	140,908 47	
Sockanosset, Hope, and Fruit Hill reservoirs	744,112 71	
Main lines and distribution pipes	2,751,986 38	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	41,176 49	
		$4,034,853 05

Bills deposited with the city treasurer for collection from April 1 to June 30, 1899, inclusive, amounted to . . . $61,793 33

As follows:

Water	$53,028 81
Water meters	4,326 00
Setting and repairing meters	2,132 68
Repairs on pipe line	575 73
Old iron and brass	260 27
Rent of real estate	168 00
Penalties	68 00
Permanently closing service stops	10 00
Labor and material, laying service pipes, etc	1,223 19
Old iron	65
	$61,793 33

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $62,959 99

As follows:

Water	$53,659 38
Water meters	4,870 27
Setting and repairing meters	2,549 00
Repairs on pipe line	290 90
Rent of real estate	168 00
Penalties	68 00
Permanently closing service stops	10 00
Labor and material, laying service pipes, etc.	1,344 44
	$62,959 99

SEWERS.

During the quarter ending June 30, 1899, four hundred and thirty-four permits were issued to drain layers — two hundred and fifty-four for new work, and one hundred and eighty for extension and repairs of drains.

Four drain layers' licenses were issued during the quarter, making the total number forty-three, all of which expire December 31, 1899.

May 3d, the contract of James J. Newman, dated September 2, 1898, for building a sewer in Olneyville square and Plainfield street, was extended and increased in accordance with section C of said contract, as follows:

About 400 linear feet 48-inch brick sewer;
About 700 linear feet 40-inch brick sewer.
Amount, $3,825.

May 24th, the proposal of Frederick E. Shaw to grade Olney street, from Morris avenue to Arlington avenue, for the purpose of building a sewer, for the sum of twenty-seven cents per cubic yard, was accepted.

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May 26th, the proposal of Builders Iron Foundry to furnish the metal work for eighteen gate hoists for the sewerage tanks at Fields Point for the sum of $3,270, was accepted.

During the quarter, assessments for the cost of constructing sewers were certified to the city treasurer, as follows:

Lester street	$310 21
Broad street (east side)	357 17
Mill street (east side)	276 92
Slocum street	748 05
Babbitt street	974 29
Trenton street	1,729 82
Sayles street	1,369 33
Washburn and Common streets	1,123 07
Public street	3,401 41
Back and Lock streets	1,768 40
Baker street	3,229 47
Broad and Rugby streets	4,629 41
Columbia avenue and Roger Williams park	6,726 99
Total	$26,644 54

April 3d, a contract for the construction of the following sewer was awarded, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
122.	March 24, 1899,	*Exchange place, from Exchange street to Dorrance,*	$1,034 40

April 10th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

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To Frederick E. Shaw.

No. of resolution.	Date of approval.		
123	March 24, 1899,	*Hawthorne, French, Spencer, and Waldo streets,*	$1,194 00
125.	" " "	*Morris avenue, Olney street, and Elmgrove avenue,*	2,611 40
126.	" " "	*Union, Webster, and Pocasset avenues,*	13,344 20

To William H. Sherman.

443.	Dec. 21, 1898,	*Angell street and Blackstone park,*	$575 25

To Nelson W. Colgrove.

124.	March 24, 1899,	*Mulberry, State, and Holden streets,*	$1,411 17

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
572.	Dec. 20, 1895,	*Section 21, Moshassuck Division, Improved Sewerage System,*	Feb 2, 1899.
572.	" " "	*Section 22, Moshassuck Division, Improved Sewerage System,*	Apr. 14, 1899.
260.	July, 8, 1898,	*Manton avenue, from Erastus street to King, and from Sisson to Unit,*	Apr. 20, 1899.
443.	Dec. 21, "	*Angell street and Blackstone park,*	Apr. 28, 1899.

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No. of resolution.	Date of approval.		Date of completion.
122.	March 24, 1899,	*Exchange place, from Exchange street to Dorrance.*	May 15, 1899.
123.	" " "	*Hawthorne, French, Spencer, and Waldo streets,*	May 27, 1899.
124.	" " "	*Mulberry, State, and Holden streets,*	May 20, 1899.

At the close of the quarter, work upon the following sewer of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
406.	July 15, 1889,	*Section 2, Sewage Precipitation Tanks, Improved Sewerage System.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
261.	July 8, 1898,	*Plainfield street and Olneyville square.*
358.	Sept. 26, "	*West Exchange and Gaspee streets.*
125.	March 24, 1899,	*Morris avenue, Olney street, and Elmgrove avenue.*
126.	" " "	*Union, Webster, and Pocasset avenues.*

Work upon the following sewer, completing the work ordered by the city council, had not commenced June 30, 1899, namely:

No. of resolution.	Date of approval.	
184.	May 3, 1899,	*Appleton street, from Bowdoin to Julian.*

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The amount of bills approved on account of sewers from April 1 to June 30, 1899, inclusive, was as follows:

FOR CONSTRUCTON.

Regular appropriation	$35,863 74	
Improved sewerage appropriation	53,575 31	
		$89,439 05

Charged as follows:

Material	$5,068 70
Salaries of assistant engineers	1,692 75
Testing cement	378 50
Contract reservations	377 00
Additional catch-basins	334 40
Sundries	92 75
Sundries, improved sewerage system	19 96
Tools	10 00
Patterns for sewer castings	5 06
Sewer in Angell street and Blackstone Park	672 75
Sewer in Back and Lock streets	598 12
Sewer in Brayton avenue and across land of the New York, New Haven, and Hartford Railroad Company	132 55
Sewer in Exchange place, from Exchange street to Dorrance	1,039 09
Sewer in Hawthorne, French, Spencer, and Waldo streets	1,287 45
Sewer in Manton avenue, from Erastus street to King, and from Sisson to Unit	1,870 84
Sewer in Morris avenue, Olney street and Elmgrove avenue	3,480 71
Sewer in Mulberry, State and Holden streets	1,886 52
Sewer in Parnell street, from its northerly termination to Atwells avenue	793 35
Sewer in Plainfield street and Olneyville square	8,337 50
Sewer in Union, Webster and Pocasset avenues	2,765 33
Sewer in West Exchange and Gaspee streets	8,166 75
Grading grounds at Ernest street station	798 41
Sewer in Moshassuck Division, Section 21	8,121 51
Sewer in Moshassuck Division, Section 22	6,594 49
Sewage precipitation tanks	34,914 56
	$89,439 05

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For maintenance, ... $17,390 87

Classified as follows:

Cleaning basins and sewers	$5,005 95
Repairing basins and sewers	3,350 85
Sundries	1,610 24
Cleaning and repairing old drains	1,093 24
Repairing pavement over sewer connections	1,040 30
Inspection of connections	692 33
Tools	565 89
Salary — superintendent	442 00
Barn expenses	418 08
Horses, wagons, harnesses, etc	172 06
Cleaning private connections	50 00
Contract reservations	30 00
Office expenses	19 80
Filling cisterns, etc	8 00
Repairs on gate houses	2 40

ERNEST STREET STATION.

Engineers	$764 53
Coal and wood	663 77
Cleaning screens	561 14
Firemen	396 46
Cleaning and repairing pumps	187 03
Supplies	133 35
Care of grounds	90 91
Lights	38 78
Repairs on buildings	21 93
Repairs on engines	20 95
Care of buildings	7 87
Repairs on boilers	3 01
	$17,390 87

The *net* expenditure for construction of sewers to June 30, 1899, inclusive, was $6,417,219 97

The *net* expenditure for maintenance of sewers to June 30, 1899, inclusive, was $642,563 45

Bills deposited with the city treasurer for collection from April 1, to June 30, 1899, inclusive, amounted to . . . $1,333 75

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As follows:

Miscellaneous work for sundry corporations.....	$1,187 69
Cleaning private connections.....	77 50
Filling cisterns, etc.....	$17 00
Laying drains to curbstone.....	51 06
Testing cement.....	50
	$1,333 75

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $1,169 93

As follows:

Miscellaneous work for sundry corporations.....	$1,034 73
Cleaning private connections.....	75 00
Filling cisterns, etc.....	20 50
Laying drains to curbstone.....	17 50
Testing cement.....	22 20
	1,169 93

HIGHWAYS.

Six permits to open streets were issued during the quarter.

April 8th, the proposal of Francesco Cardarelli to furnish and deliver upon the street about 2,000 linear feet straight granite curbing for the sum of fifty cents per foot, was accepted.

April 28th, proposals for furnishing and delivering granite paving blocks were accepted as follows:

WESTERLY GRANITE WORKS.

1,000 square yards at $1.04 per square yard.
500 square yards at $1.06 per square yard.

CALDER AND CARNIE.

50,000 paving blocks at $1.14 per square yard.

CHARLES D. CHAPMAN.

25,000 paving blocks at $1.14½ per square yard.

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May 8th, the proposal of Murray Brothers to grade Irving avenue, from Loring to Blackstone, for the sum of thirteen cents per cubic yard, measured in excavation, was accepted.

May 9th, the proposal of James Beaton to furnish and deliver 1,000 square yards granite paving blocks for the sum of $1.04 per square yard, was accepted.

June 9th, the proposal of the Narragansett Improvement Company to lay the wearing surface of Trinidad Lake sheet asphalt in Exchange place, in the extension of Exchange street, and in Mathewson street, from Westminster to Weybosset, in accordance with the plans and specifications of the city engineer, for the sum of $1.50 per square yard, was accepted, and a contract subsequently executed.

June 20th, the proposal of Crabtree & Havey to furnish and deliver 5,000 linear feet straight granite curbing for the sum of forty-six cents per foot, was accepted.

June 30th, statements of the cost of concreting sidewalks in sundry streets, under authority conferred by the city council by Resolution No. 446, approved September 27, 1895, with ten per centum added to cover the cost of assessing and collecting, were certified to the assessors of taxes, amounting to the sum of $5,613.90.

The following resolutions were repealed by Resolution No. 192, that became a law May 18, 1899, namely:

To Build.

No. of resolution.	Date of approval.	
257.	July 8, 1898,	*Exchange place and West Exchange street.*

To Pave with Asphalt.

353.	Sept. 23, 1898,	*Washington street extension, from West Exchange to near Exchange bridge.*

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During the quarter, the following work was completed:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
Dec. 16, 1897,	*Arlington avenue, east side, from Irving to University.*
" " "	*Ayrault street, from Valley to Chalkstone avenue.*
" " "	*Wayne street, from Nolan to Candace.*
" " "	*West Park street, from Holden to Senter.*
June 16, 1898,	*Arlington avenue, east side, from University to Lloyd.*
Sept. 15, "	*Power street, from Governor to Ives.*
Dec. " "	*Wayland avenue, from Elton street to Irving avenue.*

To Remove Building and Grade.

No. of resolution.	Date of approval.	
320.	Sept. 13, 1898,	*Old passenger station, Exchange place and adjoining lands.*

To Build Iron Fence.

364.	Oct. 6, 1898,	*Approaches to the new passenger station.*

To Build and Curb.

350.	Sept. 23, 1898,	*Lexington avenue, from Hamilton street to Broad.*
350.	" " "	*Arlington avenue, east side, from Irving to University.*
350.	" " "	*Ayrault street, from Valley to Chalkstone avenue.*
350.	" " "	*Wayne street, from Nolan to Candace.*
350.	" " "	*West Park street, from Holden to Senter.*
350.	" " "	*Arlington avenue, east side, from University to Lloyd.*

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The following work was in progress June 30, 1899, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
May 16, 1895,	*Promenade street, from present end of pavement near railroad bridge to Steeple street:* — three-fourths completed.
Sept. 15, 1898,	*Canal street extension and Mill street:* — nearly completed.
Oct. 20, "	*Doyle avenue, from Morris to Elmgrove:* — street graded.

To Put in Good Condition.

Sept. 16, 1897,	*Irving avenue, from Grotto to its easterly termination:* — part graded.

To Take Possession.

Dec. 15, 1898,	*Charles street, from Lock to Randall square.*

To be Paved with Granite Blocks.

No. of resolution.	Date of approval.	
151.	April 5, 1895,	*Promenade street, from present end of pavement near railroad bridge to Steeple street:* — one-half completed.
121.	March 24, 1899,	*Canal street extension and Mill street:* — nearly completed.

To Build.

No. of resolution.	Became a law.	
192.	May 18, 1899,	*Exchange place and extension of Exchange street:* — one-half completed.

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The following work, ordered by the board of aldermen and city council, had not commenced June 30, 1899, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
Dec. 16, 1897,	*Black street, from Orms to Chalkstone avenue.*
" " "	*Foster street, from Broad to Pine.*
June " 1898,	*Columbia avenue, from Broad street to Roger Williams park.*
Sept. 15, "	*Irving street, from Emerson to Broad.*
Dec. " "	*Huntington avenue, from Carter street to Jackson avenue.*
April 20, 1899,	*Babbitt street, from Black to Quaid.*
" " "	*Charles street, from Lock to Stevens.*
" " "	*Waldo street, from Salem to Dexter.*
June 15, "	*Commodore street, from Branch avenue to Silver Spring street.*

TO GRADE AND REPAIR WHEN ABUTTING OWNERS CURB AND PAVE GUTTERS.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

TO TAKE POSSESSION.

June 1, 1899, *Pratt street, from Halsey to Jenckes.*

TO BUILD AND CURB.

No. of resolution.	Date of approval.	
350.	Sept. 23, 1898,	*Black street, from Orms to Chalkstone avenue.*
350.	" " "	*Columbia avenue, from Broad street to Roger Williams park.*

TO GRADE, WHEN UNION RAILROAD COMPANY IS AUTHORIZED TO EXTEND ITS RAILS.

455. Dec. 30, 1898, *Douglas avenue, from Chad Brown street to Admiral.*

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To Buy and Set Stone Bounds.

No. of resolution. Date of approval.

478. Jan. 2, 1899, *New boundary line between the city of Providence and the town of Johnston.*

To Pave with Granite Blocks.

96. March 7, 1899, *Charles street, from Lock to Randall square.*

To Pave with Asphalt.

121. March 24, 1899, *Mathewson street, from Westminster to Weybosset.*

Bills approved on account of highways from April 1 to June 30, 1899, inclusive, amounted to:

Regular appropriation	$69,136 41	
Special appropriation	13,113 06	
Special credit appropriation	1,247 14	
		$83,496 61

Classified as follows:

Cleaning streets	$20,907 39	
Repairs on unpaved streets	18,344 17	
Crushed stone—material and labor	7,750 58	
Barn expenses	2,666 89	
Blacksmith and wheelwright shop	2,309 73	
Tools, implements, etc	2,304 12	
Repairs on stone crushers	1,760 94	
Labor on materials	1,069 29	
Repairs on paved streets	955 81	
Steam rollers — repairs and supplies	631 03	
Stone — paving and crosswalk	584 77	
Building driveways, etc.	500 47	
Salary — superintendent	442 00	
Sundries	242 88	
Watering streets	204 16	
Horses, wagons, harnesses, etc	200 98	
Watchman at city yard	156 00	
Office expenses—city yard	43 66	
Fencing streets—material and labor	33 24	
		$61,108 11
Amount carried forward		$61,108 11

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Amount brought forward		$61,108 11

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Arlington avenue, east side, from University to Lloyd	$974 66	
Ayrault street, from Valley to Chalkstone avenue	2,128 78	
Doyle avenue, from Morris to Elmgrove	2,470 66	
King street, from Manton avenue to Sheridan street	28 00	
Lexington avenue, from Hamilton street to Broad	287 17	
Power street, from Governor to Ives	628 93	
Wayland avenue, from Elton street to Irving avenue	768 49	
Wayne street, from Nolan to Candace	702 08	
West Park street, from Holden to Senter	1,286 67	
		9,275 44

Pave with Granite Blocks.

Canal and Mill streets	$6,944 79	
Charles street, from Lock to Randall square	5,744 82	
Francis street, from Cove and Exchange place to Gaspee street	353 75	
		13,043 36

Pave with Trinidad Asphalt.

The two approaches to the proposed depot in Exchange place		69 70
		$83,496 61

Bills deposited with the city treasurer for collection from April 1 to June 30, 1899, inclusive, amounted to $2,488 05

As follows:

Labor and material	$1,310 78
Building driveways, etc	446 51
Street sweepings	374 49
Boarding horses for other departments	244 27
Manure from barn	72 00
Removing trees	40 00
	$2,488 05

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . . . $7,741 67

As follows:

Union Railroad Company for asphalt pavement....	$6,276 03
Labor and material.....	532 72
Street sweepings.....	325 24
Blacksmith and harness work for other departments	256 41
Boarding horses for other departments.....	244 27
Manure from barn.....	72 00
Removing trees.....	35 00
	$7,741 67

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from April 1 to June 30, 1899, inclusive, amounted to $5,949 82

Charged as follows:

Granite curbing.....	$3,213 69
Concreting sidewalks.....	2,112 58
Iron fence on approaches to new passenger station.	455 10
Repairing sidewalks and gutters.....	168 45
	$5,949 82

Bills deposited with the city treasurer for collection from April 1 to June 30, 1899, inclusive, amounted to $613 98

As follows:

Curbing bills.....	$588 73
Use of engine discharging cargoes at city wharf...	18 00
Concreting sidewalks.....	7 25
	$613 98

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . . . $1,558 03

As follows:

Curbing bills	$1,521 28
Use of engine discharging cargoes at city wharf	34 50
Concreting sidewalks	2 25
	$1,558 03

CITY ENGINEER.

Bills approved on account of the city engineer's department, from April 1 to June 30, 1899, inclusive, amounted to . . . $12,420 18

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,645 88
Salaries of clerks	781 75
Car fares	413 75
Supplies — drawing material, etc	370 18
Instruments and repairs	69 45
Sundries	11 61
Carriage hire	2 56
	$12,420 18

Bills deposited with the city treasurer for collection from April 1 to June 30, 1899, inclusive, amounted to $2 55

As follows:

Blue process paper	$2 05
Steel tape	50
	$2 55

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $2 55

As follows:

Blue process paper	$2 05
Steel tape	50
	$2 55

BRIDGES.

April 7th, contracts were awarded and subsequently executed as follows:

To Nehemiah Kimball.

Abutment and wing walls at Mill street and river walls south of Stevens street. Amount, $10,406.00.

To Ross and Fowler.

Abutment walls and pier from Exchange bridge northerly. Amount, $20,811.05.

April 12th, the proposal of the Boston Bridge Works for the steel superstructure of the Mill street bridge, over the Moshassuck river, was accepted and a contract subsequently executed. Amount, $11,443.00.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
158.	April 20, 1897,	*Weybosset bridge and river walls.*
187.	May 20, 1898,	*Weybosset bridge extension.*
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*
95.	" " "	*Mill street bridge over the Moshassuck river.*

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Bills approved on account of bridges from April 1 to June 30, 1899, inclusive, amounted to $5,137 81

Charged as follows:

Acorn street bridge	$7 87
Atwells avenue bridge	28 55
Barn expenses	104 49
Branch avenue bridge	66 45
Building at city yard	3 05
Burnside bridge	469 59
Cemetery street bridge	2 63
Charles street bridge	10 60
Delaine street bridge	3 83
Eagle street bridge	25 91
Exchange bridge	55 11
Francis street bridge	36 41
Gaspee street bridge	5 35
Geneva bridge	2 55
Hawkins street bridge	15 33
Horses, wagons, harnesses, etc	25 82
Lumber, hardware, etc	98 37
Mill street bridge	79 95
Nash lane bridge	40 75
Park street bridge	137 78
Point street bridge	372 16
Promenade street bridge	52 62
Red bridge	997 49
Rent of keeper's house, Washington bridge	30 00
Salaries—Point street bridge	978 25
Salaries—Red bridge	509 25
Salaries—Washington bridge	487 50
Smithfield avenue bridge	2 62
Sundries	133 72
Tar bridge—Manton avenue	21 90
Tools	86 64
Valley street bridge—north span	5 98
Valley street bridge—south span	17 57
Veazie street bridge	8 51
Wanskuck bridge	36 54
Washington bridge	157 47
West River street bridge	4 65
Whelden street bridge	14 55
	$5,137 81

Bills deposited with the city treasurer for collection from April 1 to June 30, 1899, inclusive, amounted to $3 00

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As follows:

Sweepings from Washington bridge	$2 00
Old lumber	1 00
	$3 00

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $3 00

As follows:

Sweepings from Washington bridge	$2 00
Old lumber	1 00
	$3 00

Bills approved for account of Weybosset bridge and river walls appropriation, from April 1 to June 30, 1899, inclusive, amounted to . $19,050 98

Charged as follows:

Exchange place and extension of Exchange street —to build	$10,478 00
River walls between Burnside and Promenade street bridges — to rebuild	7,299 59
Weybosset bridge and river walls — to rebuild	1,000 14
Mill street bridge — to rebuild	273 25
	$19,050 98

PUBLIC WORKS OFFICE.

Bills approved on account of the public works office, from April 1 to June 30, 1899, inclusive, amounted to $5,049 72

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	2,989 99
Office supplies	134 73
	$5,049 72

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CONTINGENCIES.

Bills approved and paid from the appropriation for contingencies from April 1 to June 30, 1899, inclusive, amounted to $1,054 25

Charged as follows:

Removing old passenger station and grading adjoining land	$536 71
Inspection of electric wires	517 54
	$1,054 25

Bills deposited with the city treasurer for collection from April 1 to June 30, 1899, inclusive, amounted to $817 55

As follows:

Material in old passenger station	$500 55
Removal of dead wires	317 00
	$817 55

During the quarter coupons from bills collected have been returned by the city treasurer and receipted for (for building material in the old passenger station) to the amount of . . $500 55

ROBERT E. SMITH,
Commissioner.

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SIXTY-SEVENTH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING SEPTEMBER 30, 1899.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
13 Custom House street.
1899.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., October 1, 1899.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter IV. of the ordinances, the Commissioner of Public Works respectfully presents the sixty-seventh quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and cost of the same, for the quarter ending September 30, 1899:

WATER WORKS.

July 12th, the proposal of R. B. Little & Company to furnish and deliver at Pettaconset Pumping Station for one year from July 1, 1899, Georges Creek Cumberland coal for $3.55 per ton of 2000 pounds, was accepted.

The average daily consumption of water during the last quarter was 10,013,359 gallons.

Water pipes were laid during the quarter as follows:

12-INCH.

In Fenner avenue	399.70 feet.

8-INCH.

In Earl and Hawkins streets and Oakland avenue; and in Woodbine street, Laurel Hill and Phenix avenues in the town of Cranston	3,310.73 feet.

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6-INCH.

In Barbara, Bedford, Dudley, Eiswald, Fern, Melissa, Neville, Public, Senter and Waldo streets and Wisdom avenue; and in Main, Northup and Vigilant streets; in Lawn, Laurel Hill, Roger Williams, Victoria and Wheeler avenues in the town of Cranston	5,383.58 feet.
Total	9,094.01 feet.

or, 1.722 + miles.

Water pipes were removed or abandoned during the quarter, as follows:

In Earl street	193.96 feet.

or, .036+ mile.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,590.79 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	93,216.86 feet.
10-inch	15,057.14 feet.
8-inch	266,913.43 feet.
6-inch	1,142,830.35 feet.
Total	1,676,732.41 feet.

or, 317.562+ miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection, since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Fourteen fire hydrants have been set during the quarter, one in each of the following locations:

Bogman street, north side, 7 feet west of west line of Hilton.
Cranston street, Cranston, east side, opposite north line of Adams.

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Doyle avenue, north side, 336 feet east of east line of Morris.
Hope street, east side, 160 feet south of south line of Alumni avenue.
Irving avenue, north side, northeast corner of Wayland.
Laurel Hill avenue, Cranston, east side, southeast corner of Heather street.
Larch street, north side, 5.5 feet west of west line of East avenue.
Melissa street, east side, 107 feet south of south line of Mattie.
Neville street, north side, 467.5 feet east of east line of Fenner avenue.
Olney street, south side, 148 feet east of east line of Boylston avenue.
Phenix avenue, Cranston, north side, on east line of school-house lot.
President avenue, north side, northeast corner of Grotto.
Rhodes place, Cranston, north side, about 620 feet west of Broad street.
Senter street, northwest side, 208 feet northeast of Bath.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred and forty-six — seventeen hundred and sixty-five flush, and eighty-one post.

The total number of fire hydrants on the special water service for fire protection is ninety-one.

During the quarter, three hundred and eight water meters were set, of which number one hundred and one were to replace other meters. The use of five meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1 in.	1½ in.	2-in.	3-in.	4-in.	6-in	
Ball & Fitts	2,939	587	140	18	7	.....	.....	.....	3,691
Ball & Fitts, rotary	.....	.....	10	14	.....	2	1	.....	27
Crown	7,908	822	252	113	29	19	17	.....	9,160
Empire	232	33	24	22	6	.....	1	.....	318
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	8	19	10	1	38
Thomson	3,079	422	76	53	22	7	7	3	3,669
Trident	28	.....	.....	.....	.....	.....	.....	.....	28
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	14,187	1,865	503	220	73	47	36	4	16,935

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Five plumbers' licenses were issued during the quarter, making the total number one hundred and twenty-seven, all of which expire December 31, 1899.

Seven hundred and twenty-three permits to do plumbing work were issued during the quarter.

One hundred and seventy-five applications for water were made during the quarter, making the total number September 30, 1899, twenty-three thousand four hundred and forty.

The number of new service stops opened during the quarter was one hundred and ninety-nine.

The total number of service stops opened to September 30, 1899, inclusive, was twenty-two thousand seven hundred and sixty-six. The number in actual use September 30, 1899, was twenty-one thousand and six.

The amount of bills approved on account of water works from July 1 to September 30, 1899, inclusive, was:

For construction and extension, ... $5,827 60

Classified as follows:

Laying water pipe	$2,817 83
Laying service pipe	983 15
Special castings	675 01
Fire hydrants, boxes and covers	435 00
Wharf salaries	214 50
Horses, wagons, harnesses, etc	184 66
Barn expenses	160 44
Labor on and carting pipe	158 40
Tools	95 56
Stop valves	73 38
Taps and stops	29 15
Repairs on pipe yard buildings	52
	$5,827 60

For maintenance, ... $24,230 51

Classified as follows:

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Pettaconset Pumping Station.

Babcock and Wilcox boilers, No. 2, to erect	$3,239 33	
Coal and wood	2,025 95	
Sundries	535 83	
Engineers	525 33	
Firemen	416 10	
Superintendence	299 00	
Labor on fuel	73 86	
Care of grounds	70 75	
Barn expenses	54 31	
Oil, waste, and packing	41 74	
Worthington high-duty pumping engine	10 58	
Real estate	9 66	
Lights	2 01	
		$7,304 45

Sockanosset Reservoir.

Watchman	$182 00	
Sundries	30 57	
		212 57

Hope Pumping Station.

Firemen	$446 60	
Engineers	299 00	
Care of grounds	136 50	
Lights	60 06	
Sundries	46 77	
Oil, waste and packing	3 45	
		992 38

Hope Reservoir.

Sundries	$230 00	
Watchman	204 75	
		434 75

Fruit Hill Reservoir.

Sundries	$564 08	
Watchman	204 75	
		768 83

Pipe Line and Service Stops.

Repairs	$3,972 45	
Superintendence — salaries	851 50	
		4,823 95
Amount carried forward		$14,536 93

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Amount brought forward		$14,536 93

METER DEPARTMENT.

Water meters	$3,993 53	
Setting and repairing meters	2,064 22	
		6,057 75

MISCELLANEOUS.

Clerks' and inspectors' salaries	$1,477 32	
Sundries	606 13	
Telephone lines	550 71	
Prevention of defilement of the Pawtuxet	549 99	
Barn expenses	192 48	
Horses, wagons, harnesses, etc	102 06	
Analyses of water	90 00	
Public drinking fountains and troughs	55 42	
Pipe yard, office expenses	11 72	
		3,635 83
		$24,230 51

The amount of expenditures from July 1 to September 30, 1899, inclusive, was . $30,058 11

The total expenditures to September 30, 1899, inclusive, were $8,850,127 51

The *net* expenditure for construction and extension from July 1 to September 30, 1899, inclusive, was	$992 90
The *net* expenditure for construction and extension to September 30, 1899, inclusive, was	$6,431,037 60
The *net* expenditure for maintenance from July 1 to September 30, 1899, inclusive, was	$16,323 43
The *net* expenditure for maintenance to September 30, 1899, inclusive, was	$1,522,686 64

The value of the water works system, January 1, 1899, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	140,908 47	
Sockanosset, Hope, and Fruit Hill reservoirs	744,112 71	
Main lines and distribution pipes	2,751,986 38	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	41,176 49	
		$4,034,853 05

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Bills deposited with the city treasurer for collection from July 1 to September 30, 1899, inclusive, amounted to . . . $71,516 21

As follows:

Water	$57,443 95
Water meters	5,331 50
Setting and repairing meters	2,611 81
Repairs on pipe line	1,085 87
Rent of real estate	150 50
Penalties	26 00
Permanently closing service stops	25 00
Old lawn mower	1 00
Labor and material, laying service pipes, etc.	4,840 58
	$71,516 21

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $68,485 65

As follows:

Water	$55,718 87
Water meters	5,224 75
Setting and repairing meters	1,697 28
Repairs on pipe line	808 55
Rent of real estate	150 50
Penalties	26 00
Permanently closing service stops	25 00
Labor and material, laying service pipes, etc.	4,834 70
	$68,485 65

The amount of bills approved on account of water works for the fiscal year ending September 30, 1899, inclusive, was:

For construction and extension, - - $26,988 20

Classified as follows:

Laying water pipe	$7,566 85
Cast iron water pipe	5,206 05
Laying service pipe	3,478 54
Special castings	2,262 68
Amount carried forward	18,514 12

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Amount brought forward	$18,514 12	
Service pipe	2,090 94	
Stop valves	1,194 75	
Tools	916 22	
Barn expenses	886 00	
Wharf salaries	860 36	
Fire hydrants, boxes and covers	446 90	
Taps and stops	441 02	
Horses, wagons, harnesses, etc	428 41	
Labor on and carting pipe	412 35	
Test wells at Pettaconset	311 01	
Public drinking troughs	148 00	
Patterns for special castings	125 58	
Repairs on pipe yard buildings	108 36	
Pig lead and tin	97 88	
Sundries	6 30	
	$26,988 20	

For maintenance $92,247 32

Classified as follows :

PETTACONSET PUMPING STATION.

Coal and wood	$10,361 37	
Babcock and Wilcox boilers, No. 2, to erect	3,239 33	
Sundries	2,377 42	
Engineers	2,107 10	
Firemen	1,706 85	
Superintendence	1,199 29	
Corliss pumping engine and house	500 93	
Barn expenses	398 89	
Worthington high-duty pumping engine	392 55	
Cornish engine house	369 71	
Care of grounds	291 94	
Oil, waste and packing	254 68	
Labor on fuel	226 41	
Real estate	52 26	
Worthington pumping engine	33 00	
Cornish pumping engine	30 28	
Lights	19 60	
		$23,561 61

SOCKANOSSET RESERVOIR.

Watchman	$733 45	
Sundries	390 83	
		1,124 28
Amount carried forward		$24,685 89

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Amount brought forward		$24,685 89
Hope Pumping Station.		
Coal and wood	$2,385 00	
Firemen	1,741 00	
Engineers	1,220 54	
Care of grounds	277 25	
Lights	275 10	
Sundries	197 38	
Holly pumping engine	8 87	
Oil, waste and packing	3 45	
Repairs on boilers	05	
		6,108 64
Hope Reservoir.		
Sundries	$974 68	
Watchman	821 25	
		1,795 93
Fruit Hill Reservoir.		
Sundries	$1,598 65	
Watchman	821 25	
		2,419 90
Pipe Line and Service Stops.		
Repairs	$14,515 17	
Superintendence, salaries	3,413 56	
		17,928 73
Meter Department.		
Water meters	$13,992 62	
Setting and repairing meters	6,835 33	
		20,827 95
Miscellaneous.		
Town of Cranston, tax	$6,228 37	
Clerks' and inspectors' salaries	5,895 78	
Prevention of defilement of the Pawtuxet	2,199 96	
Sundries	925 88	
Barn expenses	876 55	
Horses, wagons, harnesses, etc	612 39	
Telephone lines	586 71	
Town of North Providence, tax	400 00	
Analyses of water	360 00	
Pipe yard, office expenses	159 18	
Public drinking fountains and troughs	153 52	
Real estate at Pawtuxet	81 00	
Thawing services, etc	94	
		18,480 28
		$92,247 32

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SEWERS.

During the quarter ending September 30, 1899, three hundred and sixty seven permits were issued to drain layers — one hundred and ninety-eight for new work, and one hundred and sixty-nine for extension and repairs of drains.

July 12th, the proposal of Providence Coal Company to furnish and deliver at Ernest Street Pumping Station for one year from July 1, 1899, New River steam coal for $2.90 per ton of 2000 pounds, was accepted.

July 11th, a contract for the construction of the following sewer was awarded, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

To James J. Newman.

No. of resolution.	Date of approval.		
247.	July 7, 1899,	*Plainfield, Heath and Rye streets and Webster avenue,*	$6,924 90

July 18th, a contract for the construction of the following sewer was awarded and subsequently executed, namely:

To Frederick E. Shaw.

No. of resolution.	Date of approval.		
250.	July 7, 1899,	*Princeton avenue and Sayles street,*	$947 40

July 28th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

To Gammino & Cappelli.

No. of resolution.	Date of approval.		
184.	May 3, 1899,	*Appleton street, from Bowdoin to Julian,*	$599 32

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No. of resolution.	Date of approval.		
248.	July 7, 1899,	*Pocasset avenue, Whittier avenue, Bancroft street, and Atwood street,*	$5,119 50

To Frederick E. Shaw.

249.	July 7, 1899,	*Putnam and Zone streets,*	$1,123 95
96.	March 7, "	*Charles street and Randall square,*	$1,144 00

Sept. 14th, a contract for the construction of the following sewer was awarded and subsequently executed, namely:

To Frank Gammino.

No. of resolution.	Date of approval.		
325.	Sept. 12, 1899,	*Bancroft street, from Magnolia to Roosevelt,*	$363 17

Sept. 21st, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

To Frederick E. Shaw.

No. of resolution.	Date of approval.		
324.	Sept. 12, 1899,	*Adelaide avenue, Miner and Oxford streets,*	$593 55
326.	" " "	*Charles and Printery streets,*	1,115 00
327.	" " "	*Laban street, Eastwood avenue, Webster avenue, Heath street and Hartford avenue,*	16,811 80
328.	" " "	*Roosevelt street from Laurel Hill avenue to Webster avenue,*	1,139 50
329.	" " "	*Young avenue and Federal street,*	455 00

During the quarter, the construction of the following sewers was completed, namely:

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No. of resolution.	Date of approval.		Date of completon.
261.	July 8, 1898,	*Plainfield street and Olneyville square,*	Aug. 11, 1899.
358.	Sept. 26, "	*West Exchange and Gaspee streets,*	July 18, 1899.
125.	Mar. 24, 1899,	*Morris avenue, Olney street and Elmgrove avenue,*	Aug. 9, 1899.
184.	May 3, "	*Appleton street, from Bowdoin to Julian,*	Aug. 28, 1899.
96.	Mar. 7, "	*Charles street and Randall square,*	Aug. 18, 1899.

At the close of the quarter, work upon the following sewer of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
406.	July 15, 1889,	*Section 2, Sewage Precipitation Tanks, Improved Sewerage System.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
126.	March 24, 1899,	*Union, Webster, and Pocasset avenues.*
247.	July 7, "	*Plainfield, Heath and Rye streets and Webster avenue.*
248.	" " "	*Pocasset avenue, Whittier avenue, Bancroft street and Atwood street.*
250.	" " "	*Princeton avenue and Sayles street.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced September 30, 1899, namely:

No. of resolution.	Date of approval.	
249.	July 7, 1899,	*Putnam and Zone streets.*
324.	Sept. 12, "	*Adelaide avenue, Miner and Oxford streets.*
325.	" " "	*Bancroft street, from Magnolia to Roosevelt.*

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No. of resolution.	Date of approval.	
326.	Sept. 12, 1899,	*Charles and Printery streets.*
327.	" " "	*Laban street, Eastwood avenue, Webster avenue, Heath street and Hartford avenue.*
328.	" " "	*Roosevelt street, from Laurel Hill avenue to Webster.*
329.	" " "	*Young avenue, and Federal street.*

The amount of bills approved on account of sewers from July 1 to September 30, 1899, inclusive, was as follows:

For Construction.		
Regular appropriation	$34,204 34	
Improved sewerage appropriation	49,090 11	
		$83,294 45

Charged as follows:

Material	$6,196 72
Contract reservations	3,946 00
Testing cement	387 50
Additional catch-basins	365 15
Sundries	183 90
Tools	4 58
Sewer in Appleton street, from Bowdoin to Julian	617 67
Sewer in Hawthorne, French, Spencer, and Waldo streets	107 90
Sewer in Manton avenue, from Erastus street to King, and from Sisson to Unit	65 38
Sewer in Morris avenue, Olney street and Elmgrove avenue	2,343 86
Sewer in Mulberry, State and Holden streets	151 76
Sewer in Plainfield, Heath and Rye streets and Webster avenue	4,530 36
Sewer in Plainfield street and Olneyville square	5,731 92
Sewer in Pocasset and Whittier avenues, Bancroft and Atwood streets	1,467 22
Sewer in Princeton avenue and Sayles street	578 22
Sewer in Union, Webster and Pocasset avenues	10,545 73
Sewer in West Exchange and Gaspee streets	2,746 74
Connecting lateral sewers with improved sewerage system	164 53
Salaries of assistant engineers	1,780 88
Sewage sludge filter presses	56 48
Sewer in Moshassuck Division, Section 22	540 89
Sewage precipitation tanks	40,732 29
Sundries, improved sewerage system	48 77
	$83,294 45

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For maintenance, ... $19,006 98

Classified as follows:

Cleaning basins and sewers	$5,203 93
Repairing basins and sewers	4,219 23
Sundries	1,786 13
Cleaning and repairing old drains	1,366 32
Inspection of connections	694 75
Horses, wagons, harnesses, etc	677 74
Repairing pavement over sewer connections	445 28
Salary — superintendent	442 00
Tools	421 24
Barn expenses	256 64
Filling cisterns, etc	81 63
Telephone lines	70 71
Cleaning private connections	55 00
Office expenses	11 33

ERNEST STREET STATION.

Engineers	765 89
Coal and wood	727 53
Cleaning screens	565 70
Cleaning and repairing pumps	464 54
Firemen	432 16
Care of grounds	161 60
Supplies	98 90
Lights	32 27
Repairs on engines	15 75
Repairs on boilers	7 50
Care of buildings	3 21
	$19,006 98

The *net* expenditure for construction of sewers to September 30, 1899, inclusive, was $6,499,601 91

The *net* expenditure for maintenance of sewers to September 30, 1899, inclusive, was $660,114 05

Bills deposited with the city treasurer for collection from July 1, to September 30, 1899, inclusive, amounted to . . $2,943 68

As follows:

Miscellaneous work	$1,909 24
Filling cisterns, etc	84 45
Cleaning private connections	54 00
Old manhole frame and cover	2 51
Sewer material	893 48
	$2,943 68

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $2,368 89

As follows:

Miscellaneous work	$1,325 67	
Filling cisterns, etc	84 45	
Cleaning private connections	43 75	
Old manhole frame and cover	2 51	
Sewer material	824 66	
Laying drains to curbstones	87 25	
Testing cement	60	
	$2,368 89	

The amount of bills approved on account of sewers for the fiscal year ending September 30, 1899, inclusive, was as follows:

FOR CONSTRUCTION.

Regular appropriation	$93,391 38	
Improved sewerage appropriation	200,293 98	
		$293,685 36

Charged as follows:

Material	$20,369 20	
Contract reservations	5,698 00	
Additional catch-basins	1,932 48	
Testing cement	1,383 43	
Sundries	811 27	
Patterns for sewer castings	231 31	
Tools	29 73	
Sewer in Angell street and Blackstone park	672 75	
Sewer in Appleton street, from Bowdoin to Julian	617 67	
Sewer in Back and Lock streets	628 17	
Sewer in Broad and Rugby streets	563 75	
Sewer in Brayton avenue and across land of New York, New Haven, and Hartford Railroad Co.	5,972 28	
Sewer in Exchange place, from Exchange street to Dorrance	1,039 09	
Sewer in Hawthorne, French, Spencer and Waldo streets	1,395 35	
Sewer in Lester street, from Gilmore to Bridgham	496 61	
Sewer in Manton avenue, from Erastus street to King, and from Sisson to Unit	3,427 73	
Amount carried forward	$45,268 82	

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Amount brought forward	$45,268 82
Sewer in Mill street, east side, from North Main to Bark	463 54
Sewer in Morris avenue, Olney street and Elmgrove avenue	5,824 57
Sewer in Mulberry, State and Holden streets	2,038 28
Sewer in Parnell street, from its northerly termination to Atwells avenue	3,145 60
Sewer in Plainfield, Heath and Rye streets and Webster avenue	4,530 36
Sewer in Plainfield street and Olneyville square	18,724 43
Sewer in Pocasset and Whittier avenues, Bancroft and Atwood streets	1,467 22
Sewer in Princeton avenue and Sayles street	578 22
Sewer in Slocum street, from near Almy to Harkness	323 99
Sewer in Union, Webster and Pocasset avenues	13,311 06
Sewer in West Exchange and Gaspee streets	11,943 13
Sewer in Manton avenue and King street	546 84
Sewer in Moshassuck Division, Section 20	1,053 84
Sewer in Moshassuck Division, Section 21	27,112 03
Sewer in Moshassuck Division, Section 22	37,910 00
Sewage precipitation tanks	103,927 22
Sewer in Woonasquatucket Division, Section 23	6,174 84
Connecting lateral sewers with improved sewerage system	164 53
Culvert across Allen's avenue at Old Maid's cove	165 25
Grading grounds at Ernest street station	1,301 86
Salaries of assistant engineers	7,542 26
Sewage sludge filter presses	56 48
Sundries, improved sewerage system	110 99
	$293,685 36

For maintenance, ... $63,740 63

Classified as follows:

Cleaning basins and sewers	$19,407 43
Repairing basins and sewers	12,303 48
Cleaning and repairing old drains	5,014 57
Sundries	3,753 42
Inspection of connections	2,718 12
Salary—superintendent	1,772 86
Tools	1,571 39
Repairing pavement over sewer connections	1,485 58
Barn expenses	1,415 44
Horses, wagons, harnesses, etc	1,006 78
Amount carried forward	$50,449 07

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Amount brought forward	$50,449 07
Storm sewer in Benefit and Star streets	553 30
Cleaning private connections	160 60
Office expenses	135 54
Filling cisterns, etc	114 01
Telephone lines	70 71
Contract reservations	30 00
Repairs on buildings at sewer maintenance yard	10 63
Repairs on gate houses	2 40

ERNEST STREET STATION.

Engineers	2,993 82
Coal and wood	2,778 31
Cleaning screens	2,262 00
Firemen	1,618 37
Cleaning and repairing pumps	1,121 16
Supplies	674 50
Care of grounds	380 14
Lights	180 09
Repairs on engines	154 03
Care of buildings	19 11
Repairs on buildings	21 93
Repairs on boilers	10 91
	$63,740 63

HIGHWAYS.

Four permits to open streets were issued during the quarter.

August 3d, curbing bills were certified to the assessors of taxes amounting to $4,126.24.

August 25th, the proposal of James H. Tower to furnish and erect an iron fence at Charles street, and north of Exchange bridge along the river, for the sum of $2.15 per linear foot, was accepted.

August 31st, the proposal of Rhode Island Concrete Company to furnish the tar, pitch and labor for a tarred macadam roadway in Foster street, from Broad to Pine, for the sum of 45 cents per square yard, was accepted.

September 21st, the proposal of Smith Concrete Company to fill the joints of granite block pavements with pea gravel

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and paving cement for the sum of 44½ cents per square yard, or if pitch is used, for the sum of 45 cents per square yard, was accepted.

The following resolution was repealed by Resolution No. 263, approved August 10, 1899, namely:

To Build and Curb.

No. of resolution.	Date of approval.	
350.	Sept. 23, 1898,	*Black street, from Orms to Chalkstone avenue.*
350.	" " "	*Columbia avenue, from Broad street to Roger Williams park.*

During the quarter, the following work was completed:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
May 16, 1895,	*Promenade street, from present end of pavement near railroad bridge to Steeple street.*
Dec. 16, 1897,	*Black street, from Orms to Chalkstone avenue.*
Oct. 20, 1898,	*Doyle avenue, from Morris to Elmgrove.*
April 20, 1899,	*Babbitt street, from Black to Quaid.*

To Take Possession.

June 1, 1899,	*Pratt street, from Halsey to Jenckes.*
Aug. 31, "	*Laban street, from Laurel Hill avenue to Merino street.*
" " "	*Eastwood avenue, from Laurel Hill to Merino street.*

To be Paved with Granite Blocks.

No. of resolution.	Date of approval.	
151.	April 5, 1895,	*Promenade street, from present end of pavement near railroad bridge to Steeple street.*

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To Pave with Asphalt.

No. of resolution.	Date of approval.	
121.	March 24, 1899,	*Mathewson street, from Westminster to Weybosset.*

The following work was in progress Sept. 30, 1899, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
Dec. 16, 1897,	*Foster street, from Broad to Pine:*—curbing partly set.
Sept. 15, 1898,	*Canal street extension and Mill street:*—nearly completed.
Dec. " "	*Huntington avenue, from Carter street to Jackson avenue:*—nearly completed.
April 20, 1899,	*Charles street, from Lock to Stevens:*—curbing partly set.

To Put in Good Condition.

Sept. 16, 1897, *Irving avenue, from Grotto to its easterly termination:*—nearly completed.

To Take Possession.

Dec. 15, 1898, *Charles street, from Lock to Randall square.*

To be Paved with Granite Blocks.

No. of resolution.	Date of approval.	
96.	March 7, 1899,	*Charles street, from Lock to Randall square:*—in process.
121.	" 24, "	*Canal street extension and Mill street:*—nearly completed.

To Build.

No. of resolution.	Became a law.	
192.	May 18, 1899,	*Exchange place and extension of Exchange street:*—nearly completed.

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To Grade and Loam.

No. of resolution.	Date of approval.	
294.	Sept. 1, 1899,	*Land in front of new passenger station:* — nearly completed.

The following work, ordered by the board of aldermen and city council, had not commenced September 30, 1899, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
June 16, 1898,	*Columbia avenue, from Broad street to Roger Williams park.*
Sept. 15, "	*Irving street, from Emerson to Broad.*
April 20, 1899,	*Waldo street, from Salem to Dexter.*
June 15, "	*Commodore street, from Branch avenue to Silver Spring street.*
Sept. 21, "	*Bancroft street, from Sterling avenue to Kelly street.*
" " "	*Pleasant street, from Ivy to East avenue.*
" " "	*Sterling avenue, from Webster to Bancroft street.*
" " "	*Union avenue, from the present end of curbing to Webster avenue.*
" " "	*Waldo street, from Cranston to Sorrento.*
" " "	*Webster avenue, from the present end of curbing to the Cranston line.*

To Grade and Repair when Abutting Owners Curb and Pave Gutters.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

To Grade, when Union Railroad Company is Authorized to Extend its Rails.

No. of resolution.	Date of approval.	
455.	Dec. 30, 1898,	*Douglas avenue, from Chad Brown street to Admiral.*

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To Buy and Set Stone Bounds.

No. of resolution.	Date of approval.	
478.	Jan. 2, 1899,	*New boundary line between the city of Providence and the town of Johnston.*

To Drive Piles and Set Curbing.

282.	Aug. 10, 1899,	"*The Carrie Brown Memorial Fountain,*" *Exchange place.*

To Remove Rails of Providence & Worcester Railroad Company, et al.

323.	Sept. 12, 1899,	*Canal street, Market square and South Water street.*

Bills approved on account of highways from July 1 to September 30, 1899, inclusive, amounted to:

Regular appropriation	$52,819 32	
Special appropriation	24,526 01	
Special credit appropriation	6,480 59	
		$83,825 92

Classified as follows:

Cleaning streets	$17,173 02	
Repairs on unpaved streets	11,834 01	
Crushed stone—material and labor	8,192 03	
Blacksmith and wheelwright shop	2,397 17	
Stone — paving and crosswalk	1,731 09	
Barn expenses	1,636 55	
Repairs on paved streets	1,393 42	
Reservation fund	1,016 00	
Labor on material	1,014 40	
Repairs on stone crushers	953 43	
Tools, implements, etc	677 43	
Salary — superintendent	442 00	
Steam rollers — repairs and supplies	364 00	
Fencing streets—material and labor	200 35	
Horses, wagons, harnesses, etc	172 24	
Watering streets	172 00	
Sundries	170 17	
Watchman at city yard	156 00	
Building driveways, etc.	114 08	
Office expenses—city yard	44 96	
Telephone lines	21 43	$49,875 78
Amount carried forward		$49,875 78

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Amount brought forward.....		$49,875 78

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Arlington avenue, east side, from University to Lloyd.....	$377 85	
Ayrault street, from Valley to Chalkstone avenue	1,187 19	
Babbitt street, from Black to Quaid.....	526 90	
Doyle avenue, from Morris to Elmgrove.....	3,308 25	
Foster street, from Broad to Pine.....	129 43	
Huntington avenue, from Carter street to Jackson avenue.....	3,172 34	
King street, from Manton avenue to Sheridan street.....	124 29	
Power street, from Governor to Ives.....	341 91	
Wayland avenue, from Elton street to Irving avenue.....	892 62	
Wayne street, from Nolan to Candace.....	261 40	
		10,322 18

Pave with Granite Blocks.

Canal and Mill streets.....	$4,904 55	
Charles street, from Lock to Randall square.....	9,893 48	
Promenade street, from present end of pavement near railroad bridge to Steeple street.....	1,958 63	
		16,756 66

Pave with Trinidad Asphalt.

Mathewson street, from Westminster to Weybosset	$2,028 05	
The two approaches to the proposed depot in Exchange place.....	4,725 30	
		6,753 35

Put in Good Condition.

Irving avenue, from Grotto to its easterly termination.....		117 95
		$83,825 92

Bills deposited with the city treasurer for collection from July 1 to September 30, 1899, inclusive, amounted to $12,278 48

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As follows:

Labor and material	$5,706 23
Union Railroad Company, for granite blocks, etc.	5,476 64
Blacksmith and harness work for other departments	409 27
Boarding horses for other departments	313 68
New York, New Haven & Hartford Railroad Company for asphalt pavement	118 50
Street sweepings	106 00
Use of steam roller	76 16
Manure from barn	72 00
	$12,278 48

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . . . $12,005 59

As follows:

Labor and material	$8,358 77
Union Railroad Company for granite blocks, etc.	2,638 07
Blacksmith and harness work for other departments	409 27
Boarding horses for other departments	313 68
Narragansett Electric Lighting Company, for asphalt pavement	107 80
Street sweepings	106 00
Manure from barn	72 00
	$12,005 59

Bills approved on account of highways for the fiscal year ending September 30, 1899, inclusive, amounted to:

Regular appropriation	$259,220 63	
Special appropriation	55,660 84	
Special credit appropriation	8,603 81	
		$323,485 28

Classified as follows:

Crushed stone — material and labor	$59,839 34
Cleaning streets	56,561 18
Repairs on unpaved streets	47,174 36
Removing snow and ice	21,199 19
Amount carried forward	$184,774 07

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Amount brought forward	$184,774 07	
Blacksmith and wheelwright shop	10,290 59	
Barn expenses	9,227 08	
Tools, implements, etc	7,070 39	
Stone — paving and crosswalk	4,809 90	
Repairs on stone crushers	4,773 50	
Steam rollers — repairs and supplies	4,309 89	
Repairs on paved streets	4,171 59	
Labor on material	3,973 07	
Salary — superintendent	1,772 86	
Horses, wagons, harnesses, etc	1,027 30	
Reservation fund	1,016 00	
Building driveways, etc	827 78	
Watchman at city yard	625 71	
Sundries	583 23	
Watering streets	401 16	
Fencing streets — material and labor	299 69	
Office expenses, city yard	289 26	
Telephone lines	21 43	
		$240,264 50

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Arlington avenue, east side, from University to Lloyd	$1,352 51	
Ayrault street, from Valley to Chalkstone avenue	3,385 51	
Babbitt street, from Black to Quald	526 90	
Columbia avenue, from Broad street to Roger Williams park	110 39	
Doyle avenue, from Morris to Elmgrove	5,778 91	
Foster street, from Broad to Pine	129 43	
Huntington avenue, from Carter street to Jackson avenue	3,172 34	
Irving avenue, from Taber to Blackstone boulevard	190 77	
King street, from Manton avenue to Sheridan street	2,967 35	
Lexington avenue, from Hamilton street to Broad	2,122 57	
Peace street, from Elmwood avenue to Bucklin street	575 18	
Power street, from Governor to Ives	970 84	
Power street, from Ives to Gano	110 13	
Wayland avenue, from Elton street to Irving avenue	1,661 11	
Wayne street, from Nolan to Candace	963 48	
West Park street, from Holden to Senter	1,286 67	
Whitmarsh street, from Updike to Elmwood avenue	939 80	
		26,243 89
Amount carried forward		$266,508 39

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Amount brought forward		$266,508 39
PAVE WITH GRANITE BLOCKS.		
Canal and Mill streets	$13,653 21	
Charles street, from Lock to Randall square	15,638 30	
Francis street, from Cove and Exchange place to Gaspee street	5,501 40	
Promenade street, from present end of pavement near railroad bridge to Steeple street	2,042 19	
		36,835 10
PAVE WITH TRINIDAD ASPHALT.		
Mathewson street, from Westminster to Weybosset	$2,028 05	
The two approaches to the proposed depot in Exchange place	17,585 56	
The extension of Washington street, from West Exchange to near Exchange bridge	410 23	
		20,023 84
PUT IN GOOD CONDITION.		
Irving avenue, from Grotto to its easterly termination		117 95
		$323,485 28

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from July 1 to September 30, 1899, inclusive, amounted to $5,169 04

Charged as follows:

Granite curbing	$3,814 83
Concreting sidewalks	1,165 47
Repairing sidewalks and gutters	188 74
	$5,169 04

Bills deposited with the city treasurer for collection from July 1 to September 30, 1899, inclusive, amounted to $88 77

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As follows:

Granite curbing	$71 02
Discharging cargoes at city wharf	12 75
Concreting sidewalks	5 00
	$88 77

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . . . $1,037 04

As follows:

Granite curbing	$1,024 29
Discharging cargoes at city wharf	12 75
	$1,037 04

Bills approved on account of sidewalks and curbing for the fiscal year ending September 30, 1899, inclusive, amounted to . . . $17,732 01

Charged as follows:

Granite curbing	$8,289 30
Concreting sidewalks	7,546 86
Iron fence on approaches to new passenger station.	1,029 34
Repairing sidewalks and gutters	866 51
	$17,732 01

CITY ENGINEER.

Bills approved on account of the city engineer's department, from July 1 to September 30, 1899, inclusive, amounted to . . . $11,786 12

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,449 88
Salaries of clerks	789 75
Car fares	215 14
Supplies — drawing material, etc	182 83
Sundries	12 16
Telephone lines	10 71
Instruments and repairs	65
	$11,786 12

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Bills deposited with the city treasurer for collection from July 1 to September 30, 1899, inclusive, amounted to $13 80

As follows:

Repairs on transit	$10 00
Field books	2 30
Blue process paper	1 00
Steel tape	50
	$13 80

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $13 80

As follows:

Repairs on transit	$10 00
Field books	2 30
Blue process paper	1 00
Steel tape	50
	$13 80

Bills approved on account of the city engineer's department for the fiscal year ending September 30, 1899, inclusive, amounted to . . $49,291 27

Charged as follows:

Salary — city engineer	$4,500 00
Salaries of assistants	39,434 10
Salaries of clerks	3,107 40
Car fares	1,043 00
Supplies — drawing material, etc	987 52
Instruments and repairs	124 60
Sundries	78 63
Telephone lines	10 71
Carriage hire	5 31
	$49,291 27

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BRIDGES.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
158.	April 20, 1897,	*Weybosset bridge and river walls.*
187.	May 20, 1898,	*Weybosset bridge extension.*
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*
95.	" " "	*Mill street bridge over the Moshassuck river.*

Bills approved on account of bridges from July 1 to September 30, 1899, inclusive, amounted to $5,328 26

Charged as follows:

Barn expenses	$64 74
Building at city yard	4 96
Cemetery street bridge	7 18
Charles street railroad bridge	410 89
Exchange bridge	10 65
Francis street bridge	97 50
Gaspee street bridge	97 50
Geneva bridge	3 15
Horses, wagons, harnesses, etc	125 75
Lumber, hardware, etc	73 38
Mill street bridge	5 25
Park avenue bridge	1 65
Point street bridge	347 43
Promenade street bridge	339 34
Randall street bridge	163 67
Red bridge	339 13
Rent of keeper's house, Washington bridge	30 00
Salaries—Point street bridge	1,008 25
Salaries—Red bridge	532 25
Salaries—Washington bridge	485 54
Smith street bridge	6 82
Amount carried forward	$4,155 03

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Amount brought forward	$4,155 03
Sundries	174 89
Telephone lines	10 72
Tools	73 29
Veazie street bridge	3 15
Wanskuck bridge	107 38
Washington bridge	302 77
Washington row bridge	479 33
Weybosset bridge	21 70
	$5,328 26

Bills deposited with the city treasurer for collection from July 1 to September 30, 1899, inclusive, amounted to $3 00

As follows:

Old lumber	$2 50
Old gas pipe	50
	$3 00

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $3 00

As follows:

Old lumber	$2 50
Old gas pipe	50
	$3 00

Bills approved on account of bridges for the fiscal year ending September 30, 1899, inclusive, amounted to $24,510 76

Charged as follows:

Acorn street bridge	$9 97
Atwells avenue bridge	28 55
Barn expenses	354 59
Branch avenue bridge	67 95
Amount carried forward	$461 06

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Amount brought forward	$461 06
Building at city yard	30 85
Burnside bridge	479 33
Cemetery street bridge	9 81
Charles street bridge	10 60
Charles street railroad bridge	410 89
Crawford street bridge	79 71
Delaine street bridge	3 83
Eagle street bridge	28 00
Exchange bridge	65 76
Francis street bridge	133 91
Gaspee street bridge	102 85
Geneva bridge	5 70
Hawkins street bridge	15 33
Horses, wagons, harnesses, etc	185 82
Lumber, hardware, etc	1,225 16
Mill street bridge	93 95
Nash lane bridge	40 75
Park avenue bridge	1 65
Park street bridge	137 78
Point street bridge	6,388 27
Promenade street bridge	391 96
Randall street bridge	168 29
Red bridge	1,682 08
Rent of keeper's house, Washington bridge	120 00
Salaries — Point street bridge	3,967 75
Salaries — Red bridge	2,076 10
Salaries — Washington bridge	1,980 90
Smith street bridge	6 82
Smithfield avenue bridge	2 62
Sundries	927 65
Tar bridge — Manton avenue	21 90
Telephone lines	10 72
Tools	419 79
Valley street bridge — north span	5 98
Valley street bridge — south span	17 57
Veazie street bridge	11 66
Wanskuck bridge	143 92
Washington bridge	2,080 96
Washington row bridge	497 58
Weybosset bridge	46 30
West River street bridge	4 65
Whelden street bridge	14 55
	$24,510 76

Bills approved for account of Weybosset bridge and river walls appropriation have been paid and charged as follows :

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From July 1 to September 30, 1899, inclusive:

Exchange place and extension of Exchange street — to build	$19,904 30
River walls between Burnside and Promenade street bridges — to rebuild	6,557 59
Mill street bridge — to rebuild	2,194 83
Weybosset bridge and river walls — to rebuild	440 45
	$29,097 17

For the fiscal year ending September, 30, 1899, inclusive:

Weybosset bridge and river walls — to rebuild	$46,678 68
Exchange place and extension of Exchange street — to build	30,382 30
River walls between Burnside and Promenade street bridges — to rebuild	13,857 18
Mill street bridge — to rebuild	2,468 08
	$93,386 24

PUBLIC WORKS OFFICE.

Bills approved on account of the public works office, from July 1 to September 30, 1899, inclusive, amounted to $5,123 49

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,016 99
Office supplies	170 78
Telephone lines	10 72
	$5,123 49

Bills approved on account of public works office for the fiscal year ending September 30, 1899, inclusive, amounted to $20,358 64

Charged as follows:

Salaries of commissioner and secretary	$7,700 00
Salaries of office assistants	12,111 64
Office supplies	536 28
Telephone lines	10 72
	$20,358 64

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CONTINGENCIES.

Bills approved and paid from the appropriation for contingencies from July 1 to September 30, 1899, inclusive, amounted to $619 22

Charged as follows:

Removing old passenger station and grading adjoining land	$471 32
Inspection of electric wires	147 90
	$619 22

Bills approved and paid from the appropriation for contingencies for the fiscal year ending September 30, 1899, inclusive, amounted to . . $5,652 11

Charged as follows:

Removing old passenger station and grading adjoining land	$4,986 67
Inspection of electric wires	665 44
	$5,652 11

ROBERT E. SMITH,
Commissioner.

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SIXTY-EIGHTH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING DECEMBER 31, 1899.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
63 Washington Street.
1900.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., Jan. 1, 1900.

TO THE HONORABLE THE CITY COUNCIL;

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the sixty-eighth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending Dec. 31, 1899 :

WATER WORKS.

October 18th, the proposal of Ira Winsor & Company to furnish a hot water heater for Hope pumping station, was accepted.

December 13th, the proposal of Camden Iron Works to furnish and deliver about two hundred tons cast iron water pipes, at $30.40 per ton of 2,240 pounds, was accepted, and a contract subsequently executed. Estimated amount $6,030.14.

December 14th, the proposal of John W. Lyon to furnish and deliver taps, stops and plugs, was accepted. Amount $1,399.15.

December 18th, the proposal of Coffin Valve Company, of Neponset, Mass., to furnish and deliver fire hydrants and various sizes of water gates, was accepted. Amount $6,953.30.

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December 18th, the proposal of the Congdon & Carpenter Company to furnish and deliver 10,000 pounds $\frac{5}{8}$-inch lead pipe, was accepted. Amount $627.00.

The average daily consumption of water during the last quarter was $9,316,037 gallons, and the average daily consumption for the year 1899 was 9,562,058 gallons.

Water pipes were laid during the quarter as follows:

8-INCH.

In Reservoir avenue; and in Laurel Hill avenue, in the town of Cranston; and in Plainfield street, in the town of Johnston	257.94 feet.

6-INCH.

In Berkley, Clematis, Dunford, East Manning and Wallace streets, in Alabama, Progress, Silver Lake and Terrace avenues; and in Rhodes place; Curtis, Garden, Prospect, School and Wales streets, and Frances avenue, in the town of Cranston	2,224.67 feet.
Total	2,482.61 feet.

or, .470 + mile.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,590.79 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	93,216.86 feet.
10-inch	15,057.14 feet.
8-inch	267,171.37 feet.
6-inch	1,145,055.02 feet.
Total	1,679,215.02 feet.

or, 318.033 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

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24-inch	4,188,58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Seven fire hydrants have been set during the quarter, one in each of the following locations:

Admiral street, north side, 28 feet east of east building line of Berkshire street.

Hassan street, east side, 158 feet south of south building line of Social street.

Indiana avenue, north side, 276 feet east of east building line of Maryland avenue.

Massachusetts avenue, north side, 230 feet east of Maryland avenue.

New York avenue. north side, on east building line of Allens avenue.

New York avenue, north side, opposite west building line of Virginia avenue.

River avenue, North Providence, north side, 14 feet west of city line.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred and fifty-three — seventeen hundred and seventy-one flush, and eighty-two post.

One fire hydrant was set during the quarter, on special water service for fire protection, at the following location:

Dorrance street, north side, on range of northeast line of Eddy street.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter three hundred and eight water meters were set, of which number one hundred and sixteen were to replace other meters. The use of three meters was discontinued.

The following meters were in use at the close of the quarter:

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Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1¼-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,851	574	137	17	7	.....	.....	.....	3,586
Ball & Fitts, rotary	.....	.....	8	14	.....	2	1	.....	25
Crown	8,003	839	257	116	29	20	17	.....	9,281
Empire	296	41	26	26	6	.....	1	.....	396
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	9	20	10	1	40
Thomson	3,174	422	76	53	22	7	7	3	3,764
Trident	28	.....	.....	.....	.....	.....	.....	.....	28
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	14,353	1,877	505	226	74	49	36	4	17,124

One plumber's license was issued during the quarter, making the total number one hundred and twenty-eight, all of which expired December 31, 1899.

Seven hundred and seventy permits to do plumbing work were issued during the quarter.

One hundred and fifty applications for water were made during the quarter, making the total number December 31, 1899, twenty-three thousand five hundred and ninety.

The number of new service stops opened during the quarter was one hundred and thirty-nine.

The total number of service stops opened to December 31, 1899, inclusive, was twenty-two thousand nine hundred and five. The number in actual use December 31, 1899, was twenty-one thousand and twenty.

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The following table shows the lengths, sizes, etc., of services laid during twenty-three years, ending December 31, 1899:

YEARS.	Length of Services in Feet.							Trenching.	Paving.	Taps Used.						Stops Used.						Service Boxes Used.
	Sizes of Pipe.						Totals.															
	½ inch.	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.				⅜ in.	½ in.	⅝ in.	¾ in.	1 in.	To-tals.	⅜ in.	½ in.	⅝ in.	¾ in.	1 in.	To-tals.	
To Dec. 31, 1898.....	9,919.9	195,844.88	19,056.89	4,342.3	3,168.8	457.7	232,790.47	245,068.29	29,866.78	612	11,856	1,453	369	296	14,586	645	12,630	1,203	269	259	15,006	15,438
1899.....	.....	8,638.50	671.90	89.5	193.2	.....	9,593.10	10,031.50	1,198	....	500	52	16	9	577	....	540	37	10	8	595	615
Totals.....	9.919.9	204,483.38	19,728.79	4,431.8	3,362.0	457.7	242,383.57	255,099.79	31,064.78	612	12,356	1,505	385	305	15,163	645	13,170	1,240	279	267	15,601	16,053

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The following table shows the lengths, sizes, etc., of services laid during the year ending December 31, 1899:

Months.	Lengths of Services in Feet.								Taps Used.					Stops Used.					Service Boxes used.
	Sizes of Pipe.					Totals.	Trenching.	Paving.											
	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.				½ in.	⅝ in.	¾ in.	1 in.	Totals	½ in.	⅝ in.	¾ in.	1 in.	Totals	
January	106.8	.....	.....	61.2	.....	168.	176.	68.	7	1	....	2	10	9	....	....	2	11	11
February	28.4	.....	.....	.....	.....	28.4	30.	7.	2	....	....	....	.....	2	....	....	....	2	2
March	807.2	56.4	.....	.....	.....	863.6	902.	69.	47	4	1	....	52	51	2	....	....	53	55
April	1,173.6	100.7	16.4	69.4	.....	1,360.1	1,422.5	192.	66	8	3	3	80	70	6	2	3	81	84
May	1,027.3	14.2	.....	.....	.....	1,041.5	1,094.5	111.	58	4	....	1	63	66	1	....	....	67	71
June	986.1	125.4	.....	.....	.....	1,111.5	1,166.5	98.	59	8	1	....	68	63	7	....	....	70	72
July	789.3	56.8	16.4	.....	.....	862.5	904.5	130.	46	6	2	....	54	50	4	2	....	56	58
August	874.6	123.4	37.8	.....	.....	1,035.8	1,080.	169.	54	8	4	....	66	56	7	4	....	67	68
September	745.2	60.6	10.7	26.2	.....	842.7	880.	124.	45	3	2	1	51	47	3	1	1	52	53
October	597.9	46.6	.....	36.4	.....	680.9	704.	90.	37	3	....	2	42	38	3	....	2	43	43
November	839.7	79.6	8.2	.....	.....	927.5	976.5	76.	49	6	1	....	56	56	3	1	....	60	63
December	662.4	8.2	.....	.....	.....	670.6	695.	64.	30	1	2	....	33	32	1	....	....	33	35
Totals	8,638.5	671.9	89.5	193.2	.....	9,593.1	10,031.5	1,198.	500	52	16	9	575	540	37	10	8	595	615

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Changes in size and location of services in 1899:

Taps and Stops.										Sizes and Lengths of Lead Pipe.										Trenching.	Paving.	Change in size only.	Change in location only.	Change in both size and location.	Change in length.
Taken Out.					Inserted.					Taken Out.					Inserted.										
⅜ inch.	½ inch.	⅝ inch.	¾ inch.	1 inch.	⅜ inch.	½ inch.	⅝ inch.	¾ inch.	1 inch.	½ inch.	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	⅜ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.						
98	28	11	1	2	.....	28	6	6	5	1,559.3	407.3	152.8	20.2	58.7	656.8	171.8	91.6	62.6	.....	2,872.5	1,396	25	9	2	21

103 services have been removed.
During the year, 96 taps were reported obstructed and were dug up and examined; 87 were cleaned; 9 were found unobstructed.
24 private taps were inserted.

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The following table exhibits the number of service stops opened each month from the commencement to December 31, 1899:

Months.	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899
January	....	54	33	21	34	55	15	49	9	20	7	17	15	21	17	18	26	7	39	36	39	56	40	29	30	27	30	40	18
February	....	47	18	18	7	25	23	18	9	19	3	11	9	10	7	15	7	10	21	25	26	23	24	28	8	28	24	21	7
March	....	38	34	63	7	45	32	60	19	46	23	39	11	28	9	24	16	14	19	28	24	28	36	40	27	20	42	46	28
April	....	109	109	108	32	108	82	78	52	58	55	49	55	62	48	68	60	38	61	53	73	76	71	76	67	100	70	53	69
May	....	224	206	147	162	168	136	95	80	84	66	72	78	62	62	61	70	52	74	66	114	83	91	81	79	98	82	51	73
June	....	329	295	151	172	148	114	103	71	109	82	48	64	81	81	59	50	86	59	80	83	103	106	105	100	76	86	61	73
July	....	333	261	127	141	158	83	80	49	75	56	77	66	76	77	83	62	89	74	67	85	105	93	80	89	83	59	51	66
August	....	224	209	123	83	94	91	51	51	39	58	87	69	61	57	71	49	52	56	76	95	104	115	116	83	64	69	54	80
September	....	184	147	139	101	94	80	63	44	37	60	67	93	50	70	59	74	63	64	77	93	114	88	112	70	71	67	53	53
October	....	138	135	160	92	84	81	78	79	48	61	56	47	65	62	52	80	70	64	54	104	102	96	85	90	70	62	47	54
November	....	100	104	185	86	54	73	57	63	54	37	64	49	51	39	57	69	47	58	72	81	118	80	70	68	52	54	42	45
December	56	83	45	122	60	35	55	45	47	29	40	27	56	44	46	28	49	42	53	50	83	102	62	62	57	58	53	47	40
Totals	56	1,863	1,596	1,364	977	1,068	865	777	573	618	548	614	612	611	575	595	612	570	642	684	900	1,014	902	884	768	747	698	566	606

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The receipts for water each year since the commencement have been as follows:.

Year.	Amount.	Year.	Amount.
1872	$41,003 51	1886	$323,084 67
1873	97,386 09	1887	339,513 60
1874	132,052 39	1888	346,731 58
1875	165,144 71	1889	377,497 97
1876	183,868 73	1890	401,140 86
1877	200,039 39	1891	404,553 84
1878	218,883 33	1892	409,421 21
1879	229,551 78	1893	427,546 51
1880	247,705 06	1894	432,383 97
1881	260,530 87	1895	471,069 97
1882	269,318 77	1896	485,187 33
1883	283,632 89	1897	490,652 47
1884	302,368 36	1898	502,603 10
1885	313,561 21	1899	522,124 46

The amount of bills approved on account of water works from October 1 to December 31, 1899, inclusive, was:

For construction and extension, . . . $5,401 03

Classified as follows:

Laying water pipe	$1,520 53
Special castings	1,031 59
Laying service pipe	923 60
Service pipe	540 00
Barn expenses	268 87
Repairs on pipe yard buildings	241 94
Wharf salaries	214 50
Stop valves	194 34
Public drinking troughs	129 20
Pig lead and tin	91 35
Patterns for special castings	80 50
Tools	66 90
Labor on and carting pipe	50 00
Horses, wagons, harnesses, etc	27 59
Cast iron water pipe	18 00
Sundries	2 12
	$5,401 03

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For maintenance, ... $34,888 30

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$3,502 30	
Babcock and Wilcox boilers, No. 2, to erect	3,153 95	
Sundries	551 50	
Engineers	525 33	
Firemen	423 70	
Superintendence	299 00	
Oil, waste and packing	82 31	
Care of grounds	77 05	
Labor on fuel	47 85	
Real estate	46 55	
Barn expenses	41 13	
Lights	24 05	
Cornish engine house	19 63	
Worthington high-duty pumping engine	16 72	
		$8,811 07

SOCKANOSSET RESERVOIR.

Watchman	$182 00	
Sundries	23 50	
		205 50

HOPE PUMPING STATION.

Firemen	$458 35	
Holly pumping engine	370 90	
Engineers	299 00	
Lights	92 19	
Sundries	44 00	
Oil, waste and packing	38 58	
Care of grounds	28 00	
Repairs on boilers	15 71	
Hope pumping engine, No. 2	1 40	
		1,348 13

HOPE RESERVOIR.

Watchman		204 75

FRUIT HILL RESERVOIR.

Sundries	$544 29	
Watchman	204 75	
		749 04

PIPE LINE AND SERVICE STOPS.

Repairs	$3,871 04	
Superintendence—salaries	848 68	
		4,719 72
Amount carried forward		$16,038 21

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Amount brought forward		$16,038 21
Meter Department.		
Water meters	$6,952 71	
Setting and repairing meters	1,679 81	
		8,632 52
Miscellaneous.		
Town of Cranston, tax	$7,077 69	
Clerks' and inspectors' salaries	1,495 32	
Prevention of defilement of the Pawtuxet	549 99	
Town of North Providence, tax	400 00	
Barn expenses	319 45	
Analyses of water	90 00	
Pipe yard, office expenses	62 30	
Horses, wagons, harnesses, etc	61 27	
Real estate at Pawtuxet	54 00	
Sundries	51 52	
Public drinking fountains and troughs	28 53	
Town of Lincoln, tax	27 50	
		10,217 57
		$34,888 30

The amount of expenditures from October 1 to December 31, 1899, inclusive, was $40,289 33

The total expenditures to December 31, 1899, inclusive, were $8,890,416 84

The *net* expenditure for construction and extension from October 1 to December 31, 1899, inclusive, was	$4,530 64
The *net* expenditure for construction and extension to December 31, 1899, inclusive, was	$6,435,568 24
The *net* expenditure for maintenance from October 1 to December 31, 1899, inclusive, was	$25,361 52
The *net* expenditure for maintenance to December 31, 1899, inclusive, was	$1,548,048 16

The value of the water works system, January 1, 1899, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	140,908 47	
Sockanosset, Hope, and Fruit Hill reservoirs	744,112 71	
Main lines and distribution pipes	2,751,986 38	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	41,176 49	
		$4,034,853 05

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Bills deposited with the city treasurer for collection from October 1 to December 31, 1899, inclusive, amounted to . . $64,076 41

As follows:

Water	$54,542 50
Water meters	5,535 74
Setting and repairing meters	2,025 80
Repairs on pipe line	798 69
Rent of real estate	52 05
Penalties	50 00
Permanently closing service stops	15 00
Labor and material, laying service pipes, etc	1,056 63
	$64,076 41

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $64,605 52

As follows:

Water	$54,158 35
Water meters	5,704 99
Setting and repairing meters	2,821 99
Repairs on pipe line	903 50
Rent of real estate	96 30
Penalties	50 00
Labor and material, laying service pipes, etc	870 39
	$64,605 52

SEWERS.

During the quarter ending December 31, 1899, three hundred and eighty permits were issued to drain layers — two hundred and nine for new work, and one hundred and seventy-one for extension and repairs of drains.

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October 5th, the proposal of John Johnson & Company, of New York, to furnish sewage sludge presses, was accepted, and a contract subsequently executed.

October 13th, the proposal of Hartwell, Williams & Kingston, to build a screen-house at Ernest street pumping station, was accepted. Amount, $2,350.00.

October 19th, the proposal of International Power Company, to furnish screens for screen-house and well at the precipitation tanks, was accepted. Amount, $390.00.

November 4th, the proposal of Shone Company, of Chicago, to furnish one pair Shone Ejectors complete, for the precipitation tanks at Field's Point, was accepted. Amount, $3,700.00.

November 9th, the proposal of Rand Drill Company, of New York, to furnish and deliver two air-compressors for lifting and pressing sewage sludge at precipitation tanks at Field's Point, was accepted. Amount, $3,376.00.

November 17th, the proposal of the Boston Bridge Works to furnish and erect steel roof truss for the sludge press-house at Field's Point, was accepted. Amount, $2,693.21.

November 24th, the proposal of James H. Tower, to furnish and erect a spiral stairway for the ejector well at the sludge press-house, was accepted. Amount, $434.75.

November 25th, the proposal of the New Jersey Steel and Iron Company, to furnish steel beams, tie rods, etc., for the press-house at Field's Point, was accepted. Amount, $1,284.23.

November 29th, the proposal of Lewis J. Pierce, to furnish material and labor for building a sewage sludge press-house at Field's Point, was accepted, and a contract subsequently executed. Amount, $8,125.00.

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December 12th, the proposal of Edwin D. Allen, to furnish and deliver flagstones, was accepted. Amount, $1,005.50.

December 13th, the proposal of Portland Stone Ware Company, of Portland, Me., to furnish and deliver vitrified sewer pipe, was accepted and a contract subsequently executed. Amount, $8,007.12.

December 15th, the offer of Smithfield Granite Company, to furnish and deliver one hundred and fifty granite inlet curbstones for catch-basins at $4.95 each, was accepted.

SEWERS CONSTRUCTED TO DECEMBER 31, 1899, IN MILES.

ITEMS.	KIND.	Built previous to 1899.	Built during 1899.	Total to Dec. 31, 1899.
Under regular appropriation	Brick.	33.096	1.697	34.793
Under regular appropriation	Pipe.	112.211	3.823	116.034
Under improved sewerage appropriation	Brick and pipe.	23.597	.531	24.128
Total miles of sewers		168.904	6.051	174.955

During the year, 128 catch-basins, 101 extra inlets, and 273 manholes, have been built, making a total to December 31, 1899, of 4,158 catch-basins, 1,228 extra inlets, and 7,469 manholes.

October 31st, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

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[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
384.	Oct. 20, 1899,	*Manton avenue, from Steuben street to Hyat, (storm sewer),* .	$728 00
385.	" " "	*Whittier avenue, from near Ralph street to Dewey,* . .	388 00

November 4th, a contract for building the following sewer was awarded and subsequently executed, namely:

TO FRANK GAMMINO.

No. of resolution.	Date of approval.		
390.	Oct. 31, 1899,	*Sterling avenue and Bancroft street,* . .	$1,205 00

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
126.	March 24, 1899,	*Union, Webster and Pocasset avenues,*	Oct. 18, 1899.
247.	July 7, "	*Plainfield, Heath and Rye streets and Webster avenue,* .	Nov. 2, 1899.
248.	" " "	*Pocasset avenue, Whittier avenue, Bancroft street and Atwood street,* . .	Nov. 28, 1899.
249.	" " "	*Putnam and Zone streets,* . .	Nov. 18, 1899.

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No. of resolution.	Date of approval.		Date of completion.
250.	July 7, 1899,	*Princeton avenue and Sayles street,*	Dec. 13, 1899.
325.	Sept. 12, "	*Bancroft street, from Magnolia to Roosevelt,*	Dec. 4, 1899.
384.	Oct. 20, "	*Manton avenue, from Steuben street to Hyat,*	Nov. 30, 1899.
390.	" 31, "	*Sterling avenue and Bancroft street,*	Dec. 23, 1899.

At the close of the quarter, work upon the following sewer of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
406.	July 15, 1889,	*Section 2, Sewage Precipitation Tanks, Improved Sewerage System.*

Work upon the following lateral sewer was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
327.	Sept. 12, 1899,	*Laban street, Eastwood avenue, Webster avenue, Heath street and Hartford avenue.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced December 31, 1899, namely:

No. of resolution.	Date of approval.	
324.	Sept. 12, 1899,	*Adelaide avenue, Miner and Oxford streets.*
326.	" " "	*Charles and Printery streets.*
328.	" " "	*Roosevelt street, from Laurel Hill avenue to Webster.*
329.	" " "	*Young avenue and Federal street.*

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No. of resolution.	Date of approval.	
385.	Oct. 20, 1899,	*Whittier avenue, from near Ralph street to Dewey.*
412.	Nov. 21, "	*Balaklava street, from near Pekin to Douglas avenue.*
413.	" " "	*Burnside street, from near Colfax to Thurbers avenue.*
414.	" " "	*Capron street, from near Julian to Chaffee.*
433.	Dec. 8, "	*Livingstone and North Main streets and Branch avenue.*
434.	" " "	*Atwells avenue, from the railroad bridge to near Eagle street.*
435.	" " "	*River and Chalkstone avenues.*

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SEWER MAINTENANCE DEPARTMENT.

The following table shows the work performed by the department cleaning sewers, basins, and drains, for the year 1899:

Months.	Old Work.								New Work.									Total deposit removed, cubic yards.
	Old Drains.			Sand-Catchers.		Open Ditches.			Sumps.		Sewers.				Catch-Basins.			
	Number.	Length in feet.	Deposit removed, cu. yds.	Number.	Deposit removed, cu. yds.	Number.	Length in feet.	Deposit removed, cu. yds.	Number.	Deposit removed, cu. yds.	Number.	Length in feet.	Deposit removed, cu. yds.	Dead ends.	No. times examined.	Number cleaned.	Deposit removed, cu. yds.	
January	1	.....	16.00	....	.....	....	.....	.....	8	70.59	16	6,200	45.52	.....	1	245	215.70	347.81 2.07
February	....	.....	.....	....	.....	2	350	52.00	1	4.74	17	3,421	8.33	.....	1	78	97.00	16
March	....	.....	.....	....	.....	....	.....	.....	10	112.92	78	8,050	33.63	.....	2	954	1,034.30	1,180.85
April	....	.....	.....	....	.....	2	300	55.55	3	68.19	2	4,600	140.00	.....	1	1,318	1,223.81	1,487.55
May	2	300	17.78	....	.....	1	100	7.41	7	63.55	58	8,750	33.00	43	1	1,868	1,364.15	1,485.89
June	....	.....	.....	17	30.00	....	.....	.....	2	43.63	11	3,300	3.26	.....	1	1,930	1,119.85	1,196.74
July	2	450	24.00	....	.....	....	.....	.....	6	30.03	46	16,100	14.30	.....	1	1,571	1,417.18	1,485.51
August	....	.....	.....	....	.....	....	.....	.....	5	54.54	51	10,000	31.23	35	1	2,420	1,481.18	1,566.95
September	....	.....	.....	12	23.00	....	.....	.....	2	13.44	....	.....	.....	45	2	1,582	1,206.81	1,243.25
October	....	.....	.....	....	.....	1	325	25.00	5	50.88	26	8,850	30.23	.....	2	1,907	1,344.15	1,464.76
November	1	473	17.51	6	14.50	....	.....	.....	8	72.60	55	13,625	31.81	.....	1	1,379	781.71	903.63
December	1	.....	156.00	12	25.00	4	.....	129.07	7	66.74	28	4,675	17.78	35	1	1,154	633.56	1,028.15
Totals	7	1,223	231.29	47	92.50	10	1,075	269.03	64	651.85	388	87,271	389.00	158	15	16,406	11,919.10	13,553.16

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In addition to the accompanying form, the following work has been performed by this department during the year 1899:

Work on Sewers.

Examined all sewers with candle-boat for condition and deposit; examined all gates, slots, and sumps forty-eight times. Repaired twenty sewers, fifty-six holes, and three settlements over sewers, one outlet to sewer, and twenty-four gates in overflow sewers. Plugged twenty-five leaks in sewers with cement. Reset 314 manhole frames; replaced fifty seven, and eighty-five covers, and put 147 pans in manhole frames. Laid eighty feet of 6-inch pipe in Doyle avenue; built one surface drain 824.82 feet long, two basins on surface drains, three manhole frames on surface drains, and rebuilt one manhole. Removed roots from ninety sewers; closed six slots in sewers at gates, and altered one drinking fountain.

Work on Basins.

Flushed 388 chutes; thawed out twenty-two, repaired five, rebuilt five, and put four chute frames back of chutes. Flushed 897 basin traps, reset twenty-five, and replaced two. Repaired forty-six basins and fifty-two holes at basins. Removed snow from 4,500 inlets to basins; replaced twelve basin covers; recut 264 rabbits in basin heads; reset four basin heads and two sills.

Old Work.

Repaired fifteen old drains, two holes over old drains, three old ditches, and five old chutes. Removed four old chutes and rebuilt four. Connected five basins with tidal drain. Built six chutes to old drains, and two surface drains to ponds. Removed old iron pipe from under bridge at Delaine street, and transferred five old manhole frames and covers on Valley street to Taft and Weeden mill.

Miscellaneous Work.

Flushed ninety-seven private drains, charged $252.50; pumped out thirty-five cellars, charged $104.15; and one well, $4.50; filled three cisterns, $6.00; flushed three sewers, $29.50.

For Providence Telephone Company: Thawed out pipe, charged $2.50; cut through sewer, $3.00; altered five basin connections, $60.75; built one basin and chute, $92.25; reset nine manhole frames, $37.35.

For Providence Gas Company: Altered one chute and two basin connections, charged $36.00; puddled seven ditches and altered four basin connections, $76.52.

For Narragansett Electric Lighting Company: Altered sixty basins, ten manholes, cleaned one sewer and seven house connections, and built four basins and two chutes, charged $1,983.59; rebuilt one sump, and altered five basin connections, $200.93; put bulkhead in sewer, $4.75, and cut through sewer, $8.75.

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For Union Railroad Company: Altered nine manholes, charged $165.00; built one chute, $9.25; reset twelve manhole frames, $35.35; flushed one connection, $3.00; rebuilt one basin, $10.00; altered thirty-three manholes, $47.00; built one basin, $40.00; repaired one private connection, $3.75.

For Factory Mutual Insurance Company: Tested hydrants, charged $60.00.

For Sewer Construction Department: Built two central basins; built eleven basins and thirty-four chutes on regular work, and four chutes, one manhole, and 120.20 feet of 12-inch pipe on storm sewer, and abandoned one basin on same; abandoned three basins and one chute on regular sewers, and four chutes on surface drainage; reset twenty manhole frames; built two basins, two catchers, and two chutes on surface drainage.

For Water Works Maintenance Department: Removed ashes from Hope station five times; seeded and pounded banks at Hope and Sockanosset reservoirs and Pettaconset station; reset one gate box.

For Improved Sewerage Department: Graded and sodded at brick station; built three sumps and rebuilt two; cleaned river at Mill street, removing 195 cubic yards; built one chute, one basin, and one house connection.

For Weybosset Bridge and River Walls: Built two chutes and one basin.

For Water Works Construction Department: Drove test-wells, built one manhole, and connected three watering troughs.

For Highway Department: Removed one drinking fountain; extended connections to curb; laid 458 feet of 6-inch pipe; altered six manholes and one chute; built two basins.

Repaired overflow at lake outlet in Roger Williams park.

The amount of bills approved on account of sewers from October 1 to December 31, 1899, inclusive, was as follows:

For Construction.

Regular appropriation	$27,911 79	
Improved sewerage appropriation	25,887 33	
		$53,799 12

Charged as follows:

Material	$4,505 66
Testing cement	394 99
Contract reservations	341 00
Additional catch-basins	311 40
Sundries	103 01
Tools	1 75
Sewer in Appleton street, from Bowdoin to Julian.	162 38
Sewer in Bancroft street, from Magnolia to Roosevelt	405 14
Sewer in Laban street, Eastwood avenue, Webster avenue, Heath street and Hartford avenue	4,788 68
Sewer in Manton avenue, from Steuben to Hyat	1,092 28
Sewer in Plainfield street and Olneyville square	1,140 95
Amount carried forward	$13,247 24

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Amount brought forward	$13,247 24
Sewer in Plainfield, Heath and Rye streets, and Webster avenue	3,623 65
Sewer in Pocasset and Whittier avenues, Bancroft and Atwood streets	4,805 52
Sewer in Princeton avenue and Sayles street	588 97
Sewer in Putnam and Zone streets	1,673 04
Sewer in Sterling avenue and Bancroft street	1,330 42
Sewer in Union, Webster and Pocasset avenues	3,070 41
Connecting lateral sewers with improved sewerage system	859 07
Salaries of assistant engineers	1,196 50
Sewage precipitation tanks — to build	19,381 57
Sewage sludge filter-presses	95
Sludge press-house — to erect	1,328 60
Screen-house at Ernest street station	2,691 94
Sundries, improved sewerage system	1 24
	$53,799 12

For maintenance, ... $15,531 57

Classified as follows:

Cleaning basins and sewers	$4,249 79
Repairing basins and sewers	2,379 26
Tools	1,321 35
Cleaning and repairing old drains	922 56
Sundries	908 55
Inspection of connections	685 08
Salary — superintendent	442 00
Horses, wagons, harnesses, etc	436 22
Barn expenses	426 02
Use of water	300 00
Office expenses	140 71
Cleaning private connections	97 40
Filling cisterns, etc	6 00
ERNEST STREET STATION.	
Engineers	809 21
Cleaning screens	596 41
Coal and wood	445 97
Firemen	421 68
Cleaning and repairing pumps	407 66
Supplies	372 20
Care of grounds	72 05
Lights	51 59
Repairs on engines	36 94
Care of buildings	1 75
Repairs on buildings	1 17
	$15,531 57

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The *net* expenditure for construction of sewers to December 31, 1899, inclusive, was	$6,552,084 19
The *net* expenditure for maintenance of sewers to December 31, 1899, inclusive, was	$673,860 84

Bills deposited with the city treasurer for collection from October 1 to December 31, 1899, inclusive, amounted to . . $2,403 56

As follows:

Miscellaneous work	$954 35
Cleaning private connections	125 00
Old manhole frames and covers	13 40
Filling cisterns, etc	8 50
Sewer material	1,195 56
Laying drains to curbstones	105 85
Testing cement	90
	$2,403 56

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $3,081 62

As follows:

Miscellaneous work	$1,647 63
Cleaning private connections	84 25
Cleaning sewers	15 00
Old manhole frames and covers	13 40
Filling cisterns, etc	4 50
Sewer material	1,276 26
Laying drains to curbstones	39 68
Testing cement	90
	$3,081 62

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HIGHWAYS.

Three permits to open streets were issued during the quarter.

December 22d, the proposal of Nelson A. Bennett, of Sterling, Conn., to furnish and deliver circular curbing and 14-inch crosswalk stone, was accepted. Amount, $914.00.

December 22d, the proposal of James Beaton, of Coventry Centre, R. I., to furnish and deliver circular curbing and curb corners, was accepted. Amount, $227.50.

1,148 notices to build or repair sidewalks were served upon the abutting owners during the year 1899. The work, including 170 brought over from the preceding year, was done as follows:

By the abutting owners	1,062
By the city, at the expense of the abutting owners	142
Time for doing the work extended	22
Work not done	92

December 31, 1899, the total length of received streets was 223.56 miles.

150.95 miles of streets were curbed and built with gravel or broken stone.

30.22 miles of streets were built with gravel or broken stone, but not curbed.

40.32 miles of streets were paved, as follows:

Granite blocks	30.26 miles.
Cobble stones	4.60 miles.
Brick	.42 miles.
Trinidad asphalt	4.57 miles.
Vulcanite	.47 miles.

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In addition to the general patching necessary to maintain the streets in good repair, the following work has been done during the year ending December 31, 1899, namely:

New streets built	11,341 linear feet.
Curbing set	22,642 linear feet.
Streets rebuilt	2,975 linear feet.
Streets resurfaced	113,937 linear feet.
Streets graded	7,575 linear feet.
Block pavement laid	16,572 square yards.
Asphalt pavement	25,774 square yards.
Cobble pavement relaid	1,150 square yards.
Block paving relaid	18,372 square yards.
Brick paving relaid	25 square yards.
Concrete gutters and roadways built	1,370 square yards.
Asphalt gutters and roadways built	48 square yards.
Concrete sidewalks laid	13,096 square yards.
Concrete sidewalks patched and top-dressed	2,939 square yards.
Crushed stone used	41,664.5 tons.
Screened gravel used	9,419.85 cubic yards.

During the year, the following streets, aggregating 21.578 + miles, have been resurfaced, namely:

Almy street, from Broadway to Gesler.
Ann street, from Wickenden to India.
Appleton street, from Bowdoin to Julian.
Beacon avenue, from Friendship street to Pearl.
Benevolent street, from Governor to Magee.
Bernon street, from Candace to Douglas avenue.
Blanding street, from Brook to Ann.
Bogman street, from Prairie avenue to Plain street.
Bowdoin street, from Appleton to Audrey.
Branch avenue, from West River street to Chatham.
Branch avenue, from Chatham street to Douglas avenue.
Brayton avenue, from West Exchange street to the railroad.
Bridgham street, from Trinity square to Cranston street.
Candace street, from Orms to Douglas avenue.
Carpenter street, from Vinton to Marshall.
Chalkstone avenue, from Douglas to Candace street.
Chalkstone avenue, from Manton to a point 1,700 feet northeast.
Chapin avenue, from Parade street to Ellery.
Colfax street, from Broad to Rugby.
College street, from Market square to Benefit street.
Common street, from Smith to Davis.
Conduit street, from Summer to Seekell.

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Cooke street, from Power to Angell.
Cornell street, from Regent avenue to Valley street.
Courtland street, from Westminster to Gesler.
Crary street, from Plain to Hospital.
Dexter street, from Cranston to Sprague.
Douglas avenue, from Orms street to Vale.
Durfee street, from Parade to Bridgham.
Earl street, from Bucklin to the railroad.
East street, from Wickenden to Williams.
East George street, from Governor to Ives.
East Transit street, from Gano to Ives.
Eden street, from Broadway to Eiswald street.
Eighth street, from North Main to Highland avenue.
Elmgrove avenue, from Angell street to Humboldt avenue.
Elmwood avenue, from the railroad bridge to Whitney street.
Esten street, from Orms to Smith.
Federal street, from Vinton to Weeden.
Fremont street, from Governor to Ives.
Furnace street, from Tockwotton to Wickenden.
Gallup street, from Broad to Prairie avenue.
Gano street, from Pitman to East Manning.
Gano street, from Tockwotton to Wickenden.
Gardner street, from Knowles to Camp.
George street, from Brook to Brown.
George street, from Governor to Cooke.
Glenham street, from Broad to Prairie avenue.
Hall street, from Northup avenue to Ledge street.
Hamilton street, from Adelaide avenue to Potters.
Harris avenue, from Broadway to Atwells avenue.
Hawkins street, from Admiral to Branch avenue.
Hawthorne street, from Elmwood avenue to Bucklin street.
Holden street, from Smith to Orms.
Hope street, from John to Wickenden.
Hospital street, from Point to Bassett.
Howard street, from Westminster to Broadway.
Hoyle street, from Broad to Fenner.
Hudson street, from Parade to Messer.
Huntington avenue, from Cranston street to Jackson avenue.
India street, from Ives to Gano.
Ives street, from Tockwotton to Angell.
Jewett street, from Park to Holden.
John street, from Brook to Hope.
John street, from Hope to Governor.
Julian street, from Appleton to Kossuth.
Lippitt street, from Camp to Dwight.
Livingstone street, from North Main to Nichols.
Manton avenue, from Atwells to Amherst street.
Manton avenue, from Sisson street to Chalkstone avenue.
Maple street, from Plain to Prince.
Mason street, from Aborn to West Exchange.

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Moore street, from Elmwood avenue to Broad street.
Mulberry street, from Orms to Cherry.
North Davis street, from Douglas avenue to Chalkstone.
Orms street, from Back to Esten.
Parade street, from Cranston to Susan.
Parnell street, from Atwells avenue to Lucy street.
Perry street, from Westminster to Broadway.
Plain street, from Bogman to Crary.
Plainfield street, from Daniel avenue to Silver Lake street.
Pocasset avenue, from Plainfield street to Webster avenue.
Power street, from Cooke to Governor.
President avenue, from Blackstone boulevard to Slater avenue.
Prince street, from Friendship to Point.
Princeton avenue, from Elmwood to Bucklin street.
Printery street, from Randall to Thurbers lane.
Prospect street, from George to College.
Prospect street, from Waterman to Angell.
Public street, from Hamilton to Broad.
Putnam street, from Appleton to Kossuth.
Reservoir avenue, from Adelaide to the railroad bridge.
Schofield street, from Tockwotton to Wickenden.
Seekell street, from Broad to Pine.
Sheldon street, from Traverse to Hope.
Smith street, from Eaton to Olney avenue.
Somerset street, from Friendship to West Clifford.
State street, from Smith to Orms.
Steere avenue, from Amherst street to Manton avenue.
Stewart street, from Broad to Westminster.
Susan street, from Cranston to Diamond.
Sutton street, from Atwells avenue to Broadway.
Thayer street, from Angell to Euclid avenue.
Thayer street, from Transit to Arnold.
Transit street, from Brook to Hope.
Trask street, from Ocean to Eddy.
Traverse street, from Pike to Tockwotton.
Trenton street, from Governor to Gano.
Trinity square, from Somerset street to Bridgham.
Vandewater street, from Douglas avenue to Stansbury street.
Wade street, from Tockwotton to Wickenden.
Webster avenue, from Sterling to Plainfield street.
Wendell street, from Cranston to Messer.
Whittier avenue, from Plainfield street to Webster avenue.
Williams street, from Hope to Governor.
Willow street, from Parade to Messer.
Winsor street, from Orms to Smith.
Woodward road, from Minnesota street to city line.
Zone street, from Chalkstone avenue to Orms street.

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1.434 + miles of streets have been graded during the year, namely:

Anthony avenue, from Cranston street to its northerly termination.
Clematis street, from Chalkstone avenue to Glover street.
Commodore street, from Branch avenue to Silver Spring street.
Doyle avenue, from Elmgrove to Morris.
Irving avenue, from Grotto to its easterly termination.
Irving street, from Broad to Emerson.
King street, from Sheridan to Sawin avenue.
Luna street, from Northup avenue to Ashton street.
Norwood avenue, from Roger Williams park 200 feet easterly.
Slater avenue, from Mount to Vernon.
Wayland avenue, from Elton street to Irving avenue.

2.533 + miles of streets have been repaved during the year, namely:

Back street, from Lock to Orms.
Canal street, from Burnside bridge to Exchange bridge.
Cent street, from South Main to South Water.
Dorrance street, from Westminster to Fulton.
Dyer street, from Pine to Custom House.
Eddy street, from Public to Swan.
Exchange place, from Francis street to Exchange.
Gaspee street, from Smith to the first angle southerly.
Harris avenue, from Acorn street to Ashley avenue.
India street, from Ives to Ann.
North Main street, from Olney to Livingstone.
Olneyville square, from Stokes street to Plainfield.
Plainfield street, from Olneyville square to Dyer avenue.
Randall square, from Chalkstone avenue to Stevens street.
Sabin street, from West Exchange to Mathewson.
Ship street, from Eddy to Dyer.
Silver street, from South Main to South Water.
South Main street, from Williams to Bridge.
South Water street, from Crawford to Jenkins avenue.
Tockwotton street, from Benefit to East.
West Exchange street, from Worcester to Sabin.
Westminster street, from Exchange to Jackson.
Wickenden street, from Link to Traverse.
Weybosset street, from Eddy to Union.

.577 + miles of streets have been rebuilt during the year, namely:

Foster street, from Pine to Broad.
Livingstone street, from Printery to Nichols.
Mathewson street, from Westminster to Weybosset.
Parnell street, from Atwells avenue to Lucy street.
Printery street, from Pettis to Thurbers lane.

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During the quarter the following work was completed:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.		
Dec.	16, 1897,	*Foster street, from Broad to Pine.*
June	16, 1898,	*Columbia avenue, from Broad street to Roger Williams park.*
Sept.	15, "	*Irving street, from Emerson to Broad.*
Sept.	15, "	*Canal street extension and Mill street.*
Dec.	" "	*Huntington avenue, from Carter street to Jackson avenue.*
April	20, 1899,	*Charles street, from Lock to Stevens.*
June	15, "	*Commodore street, from Branch avenue to Silver Spring street.*
Sept.	21, "	*Webster avenue, from the present end of Curbing to the Cranston line.*

TO PUT IN GOOD CONDITION.

Sept.	16, 1897,	*Irving avenue, from Grotto to its easterly termination.*

TO TAKE POSSESSION.

Dec.	15, 1898,	*Charles street, from Lock to Randall square.*

TO GRADE AND PUT IN GOOD CONDITION.

Oct.	19, 1899,	*Anthony avenue, from Cranston street to its westerly termination.*

TO GRADE AND LOAM

No. of resolution.	Date of approval.	
294.	Sept. 1, 1899,	*Land in front of new passenger station.*

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The following work was in progress December 31, 1899, namely:

TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution.	Date of approval.	
96.	Mar. 7, 1899,	*Charles street, from Lock to Randall square:* — nearly completed.
121.	" 24, "	*Canal street extension and Mill street:* — nearly completed.

TO BUILD.

No. of resolution.	Became a law.	
192.	May 18, 1899,	*Exchange place and extension of Exchange street:* — nearly completed.

The following work, ordered by the board of aldermen and city council, had not commenced December 31, 1899, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
April 20, 1899,	*Waldo street, from Salem to Dexter.*
Sept. 21, "	*Bancroft street, from Sterling avenue to Kelly street.*
" " "	*Pleasant street, from Ivy to East avenue.*
" " "	*Sterling avenue, from Webster to Bancroft street.*
" " "	*Union avenue, from the present end of curbing to Webster avenue.*
" " "	*Waldo street, from Cranston to Sorrento.*

TO GRADE AND REPAIR WHEN ABUTTING OWNERS CURB AND PAVE GUTTERS.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

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To Grade, when Union Railroad Company is Authorized to Extend its Rails.

No. of resolution.	Date of approval.	
455.	Dec. 30, 1898,	*Douglas avenue, from Chad Brown street to Admiral.*

To Buy and Set Stone Bounds.

478.	Jan. 2, 1899,	*New boundary line between the city of Providence and the town of Johnston.*

To Drive Piles and Set Curbing.

282.	Aug. 10, 1899,	*"The Carrie Brown Memorial Fountain," Exchange place.*

To Remove Rails of Providence & Worcester Railroad Company, et al.

323.	Sept. 12, 1899,	*Canal street, Market square and South Water street.*

Bills approved on account of highways from October 1 to December 31, 1899, inclusive, amounted to:

Regular appropriation	$80,674 42	
Special appropriation	10,877 37	
Special credit appropriation	5,570 25	
		$97,122 04

Classified as follows:

Cleaning streets	$16,678 22
Crushed stone—material and labor	14,817 76
Repairs on unpaved streets	9,987 85
Stone—paving and crosswalk	4,816 11
Blacksmith and wheelright shop	2,975 66
Barn expenses	2,811 83
Amount carried forward	$52,087 43

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Amount brought forward	$52,087 43	
Repairs on paved streets	2,400 59	
Tools, implements, etc	917 74	
Labor on materials	719 02	
Building driveways, etc	711 63	
Repairs on stone crushers	619 76	
Steam rollers—repairs and supplies	508 51	
Horses, wagons, harnesses, etc	484 03	
Salary—superintendent	442·00	
Watchman at city yard	156 00	
Office expenses, city yard	99 60	
Sundries	98 35	
Fencing streets—material and labor	65 15	
Watering streets	48 33	
		$59,358 14

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Babbitt street, from Black to Quaid	$254 58	
Black street, from Orms to Chalkstone avenue	1,139 33	
Columbia avenue, from Broad street to Roger Williams park	4,164 39	
Commodore street, from Branch avenue to Silver Spring street	4,946 46	
Doyle avenue, from Morris to Elmgrove	2,441 22	
Foster street, from Broad to Pine	1,214 89	
Huntington avenue, from Carter street to Jackson avenue	675 66	
Irving avenue, from Taber to Blackstone boulevard	2,453 37	
Irving street, from Emerson to Broad	1,231 85	
Webster avenue, from present end of curbing to the Cranston line	4,968 51	
West Park street, from Holden to Senter	909 14	
		24,399 40

Pave with Granite Blocks.

Canal and Mill streets	$21 25	
Charles street, from Lock to Randall square	9,415 79	
Promenade street, from present end of pavement near railroad bridge to Steeple street	1,413 80	
		10,850 84
Amount carried forward		$94,608 38

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Amount brought forward		$94,608 38
PAVE WITH ASPHALT.		
Mathewson street, from Westminster to Weybosset.		26 53
PUT IN GOOD CONDITION.		
Anthony avenue, from Cranston street to its westerly termination	$227 50	
Irving avenue, from Grotto to its easterly termination	2,259 63	
		2,487 13
		$97,122 04

Bills deposited with the city treasurer for collection from October 1 to December 31, 1899, inclusive, amounted to . . . $14,382 24

As follows:

Union Railroad Company, for asphalt, etc.	$4,739 23
Granite blocks	4,097 52
Labor and material	3,995 09
Blacksmith and harness work for other departments	868 08
Old iron	241 23
Boarding horses for other departments	192 39
Street sweepings	162 00
Manure from barn	72 00
Use of steam roller	7 50
Old oil barrels	4 20
Removing trees	3 00
	$14,382 24

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . $7,779 06

As follows:

Granite blocks	$4,097 52
Labor and material	1,802 25
Union Railroad Company, for asphalt, etc.	786 75
Amount carried forward	$6,686 52

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Amount brought forward	$6,686 52
Blacksmith and harness work for other departments	461 86
Boarding horses for other departments	192 39
Street sweepings	162 00
Building driveways, etc	113 43
Use of steam roller	83 66
Manure from barn	72 00
Old oil barrels	4 20
Removing trees	3 00
	$7,779 06

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from October 1 to December 31, 1899, inclusive, amounted to . . . $6,886 30

Charged as follows:

Granite curbing	$3,571 08
Concreting sidewalks	3,285 82
Repairing sidewalks and gutters	29 40
	$6,886 30

Curbing bills deposited with the city treasurer for collection, from October 1 to December 31, 1899, inclusive, amounted to $258 65

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $252 64

As follows:

Granite curbing	$241 89
Concreting sidewalks	10 75
	$252 64

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CITY ENGINEER.

Bills approved on account of the city engineer's department, from October 1 to December 31, 1899, inclusive, amounted to $12,429 26

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,974 22
Salaries of clerks	789 75
Supplies — drawing material, etc	323 68
Car fares	202 80
Sundries	11 31
Instruments and repairs	2 50
	$12,429 26

Bills deposited with the city treasurer for collection, from October 1 to December 31, 1899, inclusive, amounted to . . . $19 85

As follows:

Steel tapes and reel	$17 35
Calculation books	2 50
	$19 85

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $19 85

As follows:

Self-reading rod	$8 00
Tapes and reels	6 30
Plumb bobs	2 00
Field books	2 50
Blue process paper	1 05
	$19 85

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BRIDGES.

November 3d, the proposal of the Narragansett Improvement Company to lay a Trinidad asphalt pavement for the sidewalks and driveway of the Mill street bridge, was accepted, and a contract subsequently executed.

November 16th, the proposal of E. W. Everson to construct brick arches and concrete floor for the Mill street bridge, was accepted, and a contract subsequently executed. Amount, $1,599.00.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
158.	April 20, 1897,	*Weybosset bridge and river walls.*
187.	May 20, 1898,	*Weybosset bridge extension.*
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*
95.	" " "	*Mill street bridge over the Moshassuck river.*

Bills approved on account of bridges from October 1 to December 31, 1899, inclusive, amounted to $4,745 75

Charged as follows:

Acorn street bridge	$3 38
Atwells avenue bridge	20 65
Barn expenses	106 49
Building at city yard	5 38
Cemetery street bridge	208 20
Eagle street bridge	5 27
Exchange bridge	17 40
Francis street bridge	31 66
Gaspee street bridge	69 65
Horses, wagons, harnesses, etc	55 92
Amount carried forward,	$324 00

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Amount brought forward	$524 00
Lumber, hardware, etc	367 85
Mill street bridge	48 90
Nash lane bridge	20 30
Park street bridge	28
Point street bridge	466 27
Promenade street bridge	117 01
Randall street bridge	2 25
Red bridge	257 84
Rent of keeper's house—Washington bridge	30 00
Salaries—Point street bridge	1,004 25
Salaries—Red bridge	535 00
Salaries—Washington bridge	514 25
Smithfield avenue bridge	12 84
Sundries	274 50
Tools	114 96
Veazie street bridge	3 38
Wanskuck bridge	6 22
Washington bridge	426 64
Washington row bridge	12 24
Weybosset bridge	6 77
	$4,745 75

Bills deposited for collection (for old lumber sold), from October 1 to December 31, 1899, inclusive, amounted to . . . $7 30

During the quarter, coupons from bills collected (for old lumber sold), have been returned by the city treasurer and receipted for to the amount of $7 30

Bills approved for account of Weybosset bridge and river walls appropriation from October 1 to December 31, 1899, inclusive, amounted to $29,217 82

Charged as follows:

River walls between Burnside and Promenade street bridges—to rebuild	$12,048 56
Exchange place and extension of Exchange street	10,885 54
Mill street bridge—to rebuild	5,971 37
Weybosset bridge and river walls—to rebuild	312 35
	$29,217 82

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PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from October 1 to December 31, 1899, inclusive, amounted to . . $5,336 77

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,179 82
Office supplies	231 95
	$5,336 77

CONTINGENCIES.

Bills approved for the inspection of electric wires from October 1 to December 31, 1899, inclusive, were paid from the appropriation for contingencies to the amount of . . $31 40

ROBERT E. SMITH,

Commissioner.

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1900.] CITY DOCUMENT. [No. 14.

SIXTY-NINTH

QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING MARCH 31, 1900.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
63 Washington Street.
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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., April 1, 1900.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the sixty-ninth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending March 31, 1900:

WATER WORKS.

January 2d, the proposal of the Pomroy Coal Company, to furnish the teams required for teaming at the city pipe yard during the year 1900, was accepted.

January 4th, the proposal of Builders Iron Foundry, to furnish the special castings for the water and sewer departments during the year 1900, was accepted and a contract for same subsequently executed.

February 1st, the water mains laid at the expense of the Narragansett Real Estate Company at the Narragansett plat in Webster avenue and other streets, were bought back by the city for the sum of $7,000, in accordance with the terms of Resolution No. 297, approved June 21, 1895, the income from same exceeding 7 per cent. of the cost of the pipes.

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March 1st, the proposal of John R. White & Son, to furnish and deliver at Hope Pumping Station one hundred tons egg coal at $4.50 per ton, was accepted.

The average daily consumption of water during the last quarter was 9,662,726 gallons.

Water pipes were laid during the quarter as follows:

8-INCH.	
In Douglas avenue	221.00 feet.
6-INCH.	
In Calla, Denison, Huron, Vale and Wallace streets, and in Progress and Wisdom avenues	1,026.86 feet.
Total	1,247.86 feet.

or, .236+ mile.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,590.79 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	93,216.86 feet.
10-inch	15,057.14 feet.
8-inch	267,392.37 feet.
6-inch	1,146,081.88 feet.
Total	1,680,462.88 feet.

or, 318.269+ miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569+ miles.

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Four fire hydrants have been set during the quarter, one in each of the following locations:

Douglas avenue, northeast side, 110 feet southeast of south building line of Vale street.

Earl street (extension), south side, 348 feet west of Bucklin street.

Progress avenue, north side, 196 feet west of west building line of Webster avenue.

Wisdom avenue, north side, on east building line of Huron street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred and fifty-seven — seventeen hundred and seventy-five flush, and eighty-two post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter, two hundred and twenty-three water meters were set, of which number fifty-four were to replace other meters. The use of three meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,815	566	136	17	7	.....	.....	.....	3,541
Ball & Fitts, rotary	.....	.....	8	14	.....	2	1	.....	25
Crown	8,107	850	259	118	29	20	17	.....	9,400
Empire	328	45	26	27	6	.....	1	.....	433
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	9	21	10	2	42
Thomson	3,228	422	76	53	22	7	7	2	3,817
Trident	28	.....	.....	.....	.....	.....	.....	.....	28
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	14,507	1,884	506	229	74	50	36	4	17,290

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One hundred and nine plumbers' licenses were issued during the quarter, all of which expire December 31, 1900.

Four hundred and ninety-nine permits to do plumbing work were issued during the quarter.

Fifty-six applications for water were made during the quarter, making the total number, March 31, 1900, twenty-three thousand six hundred and forty-six.

The number of new service stops opened during the quarter was sixty-nine.

The total number of service stops opened to March 31, 1900, inclusive, was twenty-two thousand nine hundred and seventy-four. The number in actual use March 31, 1900, was twenty-one thousand and seventeen.

The amount of bills approved on account of water works, from January 1 to March 31, 1900, inclusive, was:

For construction and extension, . . . $17,633 45

Classified as follows:

Laying water pipe	$7,727 45
Fire hydrants, boxes and covers	6,149 00
Stop valves	855 30
Taps and stops	807 88
Special castings	709 10
Laying service pipe	636 18
Barn expenses	263 81
Wharf salaries	214 50
Tools	94 46
Horses, wagons, harnesses, etc	39 59
Cast iron water pipe	39 59
Labor on and carting pipe	35 60
Patterns for special castings	30 47
Pig lead and tin	23 69
Pig lead and tin	4 00
Repairs on pipe yard buildings	2 83
	$17,633 45

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For maintenance, ... $16,371 37

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$1,560 40	
Sundries	572 34	
Engineers	525 33	
Firemen	408 70	
Superintendence	299 00	
Care of grounds	121 06	
Repairs on boilers	85 89	
Babcock and Wilcox boilers, No. 2, — to erect	71 37	
Oil, waste and packing	62 03	
Labor on fuel	60 75	
Barn expenses	50 48	
Worthington high-duty pumping engine	25 92	
Cornish engine house	12 80	
Lights	1 47	
Real estate	40	
		$3,857 94

SOCKANOSSET RESERVOIR.

Watchman	$182 00	
Sundries	69 00	
		251 00

HOPE PUMPING STATION.

Coal and wood	$450 00	
Firemen	400 40	
Engineers	299 00	
Lights	61 95	
Sundries	55 15	
Repairs on boilers	32 12	
		1,298 62

HOPE RESERVOIR.

Watchman	$204 75	
Sundries	84 06	
		288 81

FRUIT HILL RESERVOIR.

Sundries	$249 78	
Watchman	204 75	
		454 53
Amount carried forward		$6,150 90

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Amount brought forward		$6,150 90
Pipe Line and Service Stops.		
Repairs	$3,259 26	
Superintendence—salaries	850 05	
		4,109 31
Meter Department.		
Water meters	$2,056 95	
Setting and repairing meters	1,412 75	
		3,469 70
Miscellaneous.		
Clerks' and inspectors' salaries	$1,503 32	
Prevention of the defilement of the Pawtuxet	549 99	
Barn expenses	313 89	
Analyses of water	90 00	
Pipe yard, office expenses	71 88	
Horses, wagons, harnesses, etc.	57 38	
Sundries	50 54	
Public drinking fountains and troughs	4 46	
		2,641 46
		$16,371 37

The amount of expenditures from January 1 to March 31, 1900, inclusive, was $34,004 82

The total expenditures to March 31, 1900, inclusive, were $8,924,421 66

The *net* expenditure for construction and extension from January 1 to March 31, 1900, inclusive, was	$16,133 36
The *net* expenditure for construction and extension to March 31, 1900, inclusive, was	$6,451,701 60
The *net* expenditure for maintenance from January 1 to March 31, 1900, inclusive, was	$11,365 98
The *net* expenditure for maintenance to March 31, 1900, inclusive, was	$1,559,414 14

The value of the water works system, January 1, 1900, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	138,032 80	
Sockanosset, Hope and Fruit Hill reservoirs	736,596 42	
Main lines and distribution pipes	2,730,451 99	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	32,034 63	
		$3,993,784 84

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Bills deposited with the city treasurer for collection from January 1 to March 31, 1900, inclusive, amounted to . . $382,138 92

As follows:

Water	$375,446 33
Water meters	3,358 28
Setting and repairing meters	1,221 97
Old iron	183 48
Penalties	156 00
Rent of real estate	146 00
Repairs on pipe line	103 64
Permanently closing service stops	25 00
Old lead pipe and dross	998 37
Labor and material, laying services, etc.	443 64
Old iron	56 21
	$382,138 92

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $376,977 97

As follows:

Water	$370,316 49
Water meters	3,206 03
Setting and repairing meters	1,440 99
Old iron	183 48
Penalties	156 00
Rent of real estate	101 75
Repairs on pipe line	48 14
Permanently closing service stops	25 00
Labor and material laying services, etc	1,500 09
	$376,977 97

SEWERS.

During the quarter ending March 31, 1900, one hundred and sixty-nine permits were issued to drain layers—sixty-one for new work and one hundred and eight for extension and repairs of drains.

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Thirty-four drain layers' licenses were issued during the quarter, all of which expire December 31, 1900.

January 2d, the offer of George A. Sayer, to furnish fifteen cypress gates for the precipitation tanks at Field's Point, was accepted. Amount, $727.50.

January 22d, the proposal of Coffin Valve Company, to furnish and deliver special valves for the sewage press-house at Field's Point, was accepted. Amount, $1,354.15.

January 26th, the proposal of the Narragansett Electric Lighting Company, to furnish electric power to run the air compressors at Field's Point, for a sum not exceeding 10 cents per kilowatt hour, less 75 per cent. discount, making the net cost of running the air compressors not to exceed $547.95 per month; also to furnish incandescent lighting by, meter rates, at one cent per hour per 16 c. p. lamp, less 65 per cent. discount, was accepted.

February 1st, the proposal of Builders Iron Foundry, to furnish labor and materials for pipe and bracket work at the sewage disposal works at Field's Point, was accepted. Amount, $2,950.00.

February 6th, the proposal of the Builders Iron Foundry, to furnish and erect additional piping at Field's Point sewage works for the sum of $1,350.00, was accepted.

February 8th, the proposal of Thayer & Company, of Boston, to furnish and set in place at Field's Point four sludge receivers for the sewage press-house, for the sum of $3,150.00, was accepted.

February 21st, the proposal of John Johnson & Company, of New York, to furnish four automatic valves and head pieces for forcing receivers, at the sludge press-house, was accepted. Amount, $668.00.

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March 8th, the proposal of John Johnson & Company, to furnish four 4-inch ball check valves for the press-house at Field's Point, was accepted. Amount, $127.00.

During the quarter, assessments for the cost of constructing sewers were certified to the city treasurer as follows:

Manton avenue and King street	$4,302 04
Princeton avenue and Sayles street	2,701 56
Hawthorne, French, Spencer and Waldo streets	3,673 53
Union, Webster and Pocasset avenues	15,744 12
Total	$26,421 25

At the close of the quarter, work upon the following sewer of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
406.	July 15, 1889,	*Section 2, Sewage Precipitation Tanks, Improved Sewerage System.*

Work upon the following lateral sewer was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
327.	Sept. 12, 1899,	*Laban street, Eastwood avenue, Webster avenue, Heath street and Hartford avenue.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced March 31, 1900, namely:

No. of resolution.	Date of approval.	
324.	Sept. 12, 1899,	*Adelaide avenue, Miner and Oxford streets.*
326.	" " "	*Charles and Printery streets.*
328.	" " "	*Roosevelt street, from Laurel Hill avenue to Webster.*
329.	" " "	*Young avenue and Federal street.*

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No. of resolution.	Date of approval.	
385.	Oct. 20, 1899,	*Whittier avenue, from near Ralph street to Dewey.*
412.	Nov. 21, "	*Balaklava street, from near Pekin to Douglas avenue.*
413.	" " "	*Burnside street, from near Colfax to Thurbers avenue.*
414.	" " "	*Capron street, from near Julian to Chaffee.*
433.	Dec. 8, "	*Livingstone and North Main streets and Branch avenue.*
434.	" " "	*Atwells avenue, from the railroad bridge to near Eagle street.*
435.	" " "	*River and Chalkstone avenues.*

The amount of bills approved on account of sewers from January 1 to March 31, 1900, inclusive, was as follows:

Regular appropriation	$14,192 70	
Improved sewerage appropriation	25,227 13	
		$39,419 83

Charged as follows:

Material	$5,310 19
Contract reservations	1,198 00
Sundries	410 34
Testing cement	303 04
Tools	23 57
Sewer in Laban street, Eastwood avenue, Webster avenue, Heath street and Hartford avenue	7,050 73
Salaries of assistant engineers	1,335 75
Sewage precipitation tanks—to build	11,804 63
Sewage sludge filter presses	3,207 15
Sludge press-house—to erect	6,674 97
Screen-house at Ernest street station	2,098 66
Sundries, improved sewerage system	2 80
	$39,419 83

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For maintenance, ... $13,897 69

Classified as follows:

Cleaning basins and sewers	$4,551 86	
Repairing basins and sewers	2,857 09	
Inspection of connections	614 83	
Tools	588 43	
Cleaning and repairing old drains	484 60	
Salary—superintendent	442 00	
Barn expenses	426 69	
Sundries	116 12	
Horses, wagons, harnesses, etc	115 95	
Office expenses	53 11	
Cleaning private connections	51 80	
Filling cisterns, etc	7 50	
ERNEST STREET STATION.		
Engineers	769 37	
Coal and wood	716 29	
Cleaning screens	599 52	
Cleaning and repairing pumps	557 63	
Firemen	426 18	
Supplies	364 97	
Care of grounds	72 54	
Lights	51 80	
Repairs on engines	12 86	
Care of buildings	8 94	
Repairs on boilers	6 61	
Repairs on buildings	1 00	
	$13,897 69	

The *net* expenditure for construction of sewers to March 31, 1900, inclusive, was $6,590,491 97

The *net* expenditure for maintenance of sewers to March 31, 1900, inclusive, was $687,457 55

Bills deposited with the city treasurer for collection, from January 1 to March 31, 1900, inclusive, amounted to . . . $1,241 08

As follows:

Miscellaneous work	$118 63
Cleaning private connections	86 75
Filling cisterns, etc	18 75
Old oil barrels	4 50
Sewer material	1,000 01
Laying drains to curbstone	12 04
Testing cement	40
	$1,241 08

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $1,313 03

As follows:

Miscellaneous work	$148 68
Cleaning private connections	122 75
Filling cisterns, etc	22 75
Old oil barrels	4 50
Old manhole frame and cover	2 30
Sewer material	1,000 01
Laying drains to curbstone	12 04
	$1,313 03

HIGHWAYS.

February 15th, the proposal of Crabtree & Havey, of North Sullivan, Me., to furnish and deliver 10,000 linear feet straight granite curbing at forty-six cents per foot, was accepted.

Statements have been prepared of the cost of curbstones set, ascertained by the commissioner and certified to the board of aldermen for approval, as follows:

Arlington avenue, east side, from Irving to University	$143 60
Arlington avenue, east side, from University to Lloyd	161 48
Ayrault street, from Valley to Chalkstone avenue	1,608 98
Babbitt street, from Black to Quaid	507 25
Black street, from Orms to Chalkstone avenue	609 93
Canal street extension and Mill street	392 71
Charles street, from Lock to Stevens	653 29
Columbia avenue, from Broad street to Roger Williams park	1,034 40
Commodore street, from Branch avenue to Silver Spring street	2,013 84
Doyle avenue, from Morris to Elmgrove	2,208 19
Foster street, from Broad to Pine	192 25
Huntington avenue, from Carter street to Jackson avenue	2,376 74
Irving street, from Emerson to Broad	634 72
Power street, from Governor to Ives	338 73
Wayland avenue, from Elton street to Irving avenue	278 96
Wayne street, from Nolan to Candace	737 68
Webster avenue, from present end of curbing to Cranston line	2,399 68
West Park street, from Holden to Senter	1,166 69
Total	$17,459 12

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During the quarter the following work was completed:

TO REMOVE RAILROAD TRACKS AND RAILS.

Date of order.	
Jan. 16, 1900,	*City land east of Canal street.*

The following work was in progress March 31, 1900, namely:

TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution.	Date of approval.	
96.	Mar. 7, 1899,	*Charles street, from Lock to Randall square:* — nearly completed.
121.	" 24, "	*Canal street extension and Mill street:* — nearly completed.

TO BUILD.

No. of resolution.	Became a law.	
192.	May 18, 1899,	*Exchange place and extension of Exchange street:* — nearly completed.

The following work, ordered by the board of aldermen and city council, had not commenced March 31, 1900, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
April 20, 1899,	*Waldo street, from Salem to Dexter.*
Sept. 21, "	*Bancroft street, from Sterling avenue to Kelly street.*
" " "	*Pleasant street, from Ivy to East avenue.*
" " "	*Sterling avenue, from Webster to Bancroft street.*
" " "	*Union avenue, from the present end of curbing to Webster avenue.*
" " "	*Waldo street, from Cranston to Sorrento.*

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To Grade and Repair when Abutting Owners Curb and Pave Gutters.

Date of order.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

To Grade, when Union Railroad Company is Authorized to Extend its Rails.

No. of resolution. Date of approval.

455. Dec. 30, 1898, *Douglas avenue, from Chad Brown street to Admiral.*

To Buy and Set Stone Bounds.

478. Jan. 2, 1899, *New boundary line between the city of Providence and the town of Johnston.*

To Drive Piles and Set Curbing.

282. Aug. 10, 1899, *"The Carrie Brown Memorial Fountain," Exchange place.*

To Remove Rails of Providence & Worcester Railroad Company, et al.

323. Sept. 12, 1899, *Canal street, Market square and South Water street.*

Bills approved on account of highways from January 1 to March 31, 1900, inclusive, amounted to:

Regular appropriation	$37,089 61	
Special appropriation	580 19	
Special credit appropriation	2,875 86	
		$40,545 66

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Classified as follows:

Crushed stone—material and labor	$7,897 40	
Cleaning streets	6,438 53	
Repairs on unpaved streets	4,481 36	
Blacksmith and wheelwright shop	3,117 35	
Barn expenses	2,596 32	
Steam rollers — repairs and supplies	2,404 95	
Removing snow and ice	2,197 42	
Repairs on paved streets	1,842 39	
Tools, implements, etc	1,704 14	
Stone—paving and crosswalk	939 66	
Labor on material	806 30	
Repairs on stone crushers	744 99	
Horses, wagons, harnesses, etc	710 72	
Salary — superintendent	442 00	
Sundries	167 02	
Office expenses, city yard	165 93	
Watchman at city yard	156 00	
Building driveways, etc	31 50	
		$36,843 98

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Irving avenue, from Taber to Blackstone boulevard	$2,875 86	
Pleasant street, from Ivy to East avenue	130 78	
Waldo street, from Cranston to Sorrento	25 83	
Waldo street, from Salem to Dexter	89 02	
		3,121 49

Pave with Granite Blocks.

Charles street, from Lock to Randall square		514 58

Pave with Asphalt.

Matheuson street, from Westminster to Weybosset	$20 01	
The two approaches to the proposed depot in Exchange place	45 60	
		65 61
		$40,545 66

Bills deposited with the city treasurer for collection from January 1 to March 31, 1900, inclusive, amounted to . . . $7,323 96

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As follows:

Union Railroad Company, for asphalt pavement, etc.	$5,147 59
Labor and material	1,087 85
Use of steam roller	414 52
Boarding horses for other departments	319 50
Street sweepings	211 00
Manure from barn	72 00
Old brass	65 50
Old oil barrels	6 00
	$7,323 96

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . $14,860 91

As follows:

Union Railroad Company, for granite blocks and asphalt	$9,886 82
Labor and material	3,017 63
The Dorrance estate, for blocks, etc	885 49
Blacksmith and harness work for other departments	396 97
Boarding horses for other departments	319 50
Street sweepings	211 00
Manure from barn	72 00
Old brass	65 50
Old oil barrels	6 00
	$14,860 91

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from January 1 to March 31, 1900, inclusive, amounted to . . . $884 51

Charged as follows:

Concreting sidewalks	$419 46
Repairing sidewalks and gutters	267 05
Granite curbing	198 00
	$884 51

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Bills deposited with the city treasurer for collection from January 1 to March 31, 1900, inclusive, amounted to . . . $17,882 10

As follows:

Granite curbing	$17,488 52
Concreting sidewalks	393 58
	$17,882 10

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $4,155 16

As follows:

Granite curbing	$3,816 58
Concreting sidewalks	338 58
	$4,155 16

CITY ENGINEER.

Bills approved on account of the city engineer's department, from January 1 to March 31, 1900, inclusive, amounted to $12,361 58

Charged as follows:

Salary—city engineer	$1,125 00
Salaries of assistants	10,218 14
Salaries of clerks	789 75
Supplies—drawing material, etc	214 53
Sundries	10 66
Car fares	1 85
Instruments and repairs	1 65
	$12,361 58

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BRIDGES.

January 11th, the proposal of William M. Harris, Jr., to furnish and deliver 30,000 feet B. M. white spruce plank, was accepted. Amount, $567.00.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
158.	April 20, 1897,	*Weybosset bridge and river walls.*
187.	May 20, 1898,	*Weybosset bridge extension.*
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*
95.	" " "	*Mill street bridge over the Moshassuck river.*

Bills approved on account of bridges from January 1 to March 31, 1900, inclusive, amounted to $5,279 41

Charged as follows:

Acorn street bridge	$4 20
Barn expenses	104 49
Building at city yard	8 11
Crawford street bridge	12 21
Horses, wagons, harnesses, etc.	11 43
Lumber, hardware, etc	253 61
Mill street bridge	29 97
Point street bridge	525 49
Randall street bridge	1 90
Red bridge	1,515 71
Rent of keeper's house, Washington bridge	30 00
Salaries—Point street bridge	978 25
Salaries—Red bridge	513 50
Salaries—Washington bridge	484 68
Sundries	282 76
Tools	240 97
Washington bridge	282 13
	$5,279 41

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Bills deposited with the city treasurer for collection from January 1 to March 31, 1900, inclusive, amounted to . . . $231 19

As follows:

Old iron	$226 19	
Sweepings from Washington bridge	5 00	
	$231 19	

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $231 19

As follows:

Old iron	$226 19	
Sweepings from Washington bridge	5 00	
	$231 19	

PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from January 1 to March 31, 1900, inclusive, amounted to . . $5,159 81

Charged as follows:

Salaries of commissioner and secretary	$1,925 00	
Salaries of office assistants	3,087 44	
Office supplies	147 37	
	$5,159 81	

ROBERT E. SMITH,

Commissioner.

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1900.] CITY DOCUMENT. [No. 18.

SEVENTIETH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING JUNE 30, 1900.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
14 Washington Street.
1900.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., July 1, 1900.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventieth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending June 30, 1900:

WATER WORKS.

April 5th, the proposal of Hartwell, Williams & Kingston to repair the gables at the Pettaconset pumping station for the sum of seven hundred dollars, was accepted.

April 24th, the proposal of John A. Nisbet to cut the grass at Hope reservoir for the season of 1900, was accepted.

May 23d, the proposal of The Thomas Phillips Company to furnish and deliver five tons St. Joe pig lead, at 4¼ cents per pound, was accepted.

May 25th, the proposal of John R. White & Son to furnish and deliver at Hope pumping station 450 tons of Hard Reading Egg coal, for the sum of $4.50 per ton, was accepted.

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June 22d, the proposal of L. H. Tillinghast Supply Company to furnish and deliver 5,000 pounds $\frac{5}{8}$-inch lead pipe, for the sum of 4.6 cents per pound, was accepted.

June 30th, the proposal of Interstate Coal Company to furnish and deliver coal at Pettaconset pumping station, as required, from July 1, 1900, to July 1, 1901, was accepted, as follows:

New River, at $3.85 per ton of 2,000 pounds.
Big Vein Cumberland, at $3.60 per ton of 2,000 pounds.

The average daily consumption of water during the last quarter was 9,422,520 gallons.

Water pipes were laid during the quarter as follows:

12-INCH.

In Valley street	2,887.88 feet.

8-INCH.

In city land at Field's Point, Olney street and Laurel Hill avenue; and in Woodbine street in the town of Cranston.	2,115.32 feet.

6-INCH.

In Field's Point road; Amherst, Blaine, Delaine, Dupont, Eaton, Ellery, Ledge, Locomotive, Roosevelt and Sassafras streets; Lenox, Oriole and Whipple avenues; and in Aborn, Doane, Governor, Northup, Pond and Winthrop streets; Batcheller, Cleveland, Edgewood, Princess, Wellington and Whipple avenues in the town of Cranston	7,458.98 feet.
Total	12,462.18 feet.

or, 2.360+ miles.

Water pipes were removed during the quarter as follows:

6-INCH.

From Grove, Helme, School and Valley streets and Laurel Hill avenue	2,919.13 feet.

or, .552+ mile.

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Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,590.79 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	96,104.74 feet.
10-inch	15,057.14 feet.
8-inch	269,507.69 feet.
6-inch	1,150,621.73 feet.
Total	1,690,005.93 feet.

or, 320.076 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Eight fire hydrants have been set during the quarter, one in each of the following locations:

Blaine street, east side, 324 feet north of north building line of Ledge street.

Crescent street, Cranston, northeast side, corner Berkley street.

Field's Point road, north side, 1,041 feet east of 6-inch gate at end of New York avenue.

Field's Point road, north side, 323 feet east of 6-inch gate at end of New York avenue.

Laurel Hill avenue, east side, 6 feet south of south building line of Roosevelt street.

Lenox avenue, north side, 179.6 feet west of west curb line of Melrose street.

Precipitation tanks, between press-house and lime-house.

Wayne street, Cranston, northeast side, corner Gordon street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred

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and sixty-five — seventeen hundred and eighty-one flush, and eighty-four post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter, two hundred and twenty-five water meters were set, of which number fifty-nine were to replace other meters. The use of two meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1¼-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,772	562	134	16	6	.....	.....	.....	3,490
Ball & Fitts, rotary	.....	.....	7	12	.....	2	1	.....	22
Crown	8,203	864	260	118	31	20	17	.....	9,513
Empire	360	52	30	30	7	.....	1	.....	480
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	9	22	10	2	43
Thomson	3,284	422	76	54	22	7	7	2	3,874
Trident	28	.....	.....	.....	.....	.....	.....	.....	28
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	14,648	1,901	508	230	76	51	36	4	17,454

Nine plumbers' licenses were issued during the quarter, making the total number one hundred and eighteen, all of which expire December 31, 1900.

Eight hundred and fourteen permits to do plumbing work were issued during the quarter.

One hundred and sixty-eight applications for water were made during the quarter, making the total number, June 30, 1900, twenty-three thousand eight hundred and fourteen.

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The number of new service stops opened during the quarter was one hundred and sixty-seven.

The total number of service stops opened to June 30, 1900, inclusive, was twenty-three thousand one hundred and forty-one. The number in actual use June 30, 1900, was twenty-one thousand three hundred and twenty-five.

The amount of bills approved on account of water works from April 1 to June 30, 1900, inclusive, was:

For construction and extension, . . . $16,678 38

Classified as follows:

Cast-iron water pipe	$6,890 52
Laying water pipe	5,024 02
Special castings	1,022 85
Laying service pipe	963 82
Taps and stops	499 05
Pig lead and tin	435 75
Service pipe	423 20
Fire hydrants, boxes and covers	374 18
Labor on and carting pipe	264 40
Barn expenses	255 72
Wharf salaries	214 50
Tools	166 27
Repairs on pipe yard buildings	71 33
Horses, wagons, harnesses, etc	69 57
Stop valves	3 20
	$16,678 38

For maintenance, ... $19,969 29

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$2,522 88
Cornish engine house	700 00
Engineers	525 33
Sundries	505 43
Firemen	422 40
Amount carried forward	$4,676 04

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Amount brought forward	$4,676 04	
Superintendence	299 00	
Care of grounds	87 79	
Oil, waste and packing	64 72	
Labor on fuel	56 25	
Barn expenses	50 84	
Worthington high-duty pumping engine	37 92	
Real estate	16 90	
Repairs on boilers	6 01	
Lights	84	
		$5,296 31

SOCKANOSSET RESERVOIR.

Sundries	$200 65	
Watchman	182 00	
		382 65

HOPE PUMPING STATION.

Repairs on boilers	$865 99	
Firemen	505 35	
Engineers	299 00	
Lights	65 52	
Sundries	57 97	
Care of grounds	12 25	
Holly pumping engine	2 79	
		1,808 87

HOPE RESERVOIR.

Sundries	$243 84	
Watchman	204 75	
		448 59

FRUIT HILL RESERVOIR.

Sundries	$995 80	
Watchman	204 75	
		1,200 55

PIPE LINE AND SERVICE STOPS.

Repairs	$3,026 13	
Superintendence — salaries	850 33	
		3,876 46

METER DEPARTMENT.

Water meters	$2,594 70	
Setting and repairing meters	1,533 24	
		4,127 94
Amount carried forward		$17,141 37

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Amount brought forward		$17,141 37

MISCELLANEOUS.

Clerks' and inspectors' salaries	$1,503 32	
Prevention of defilement of the Pawtuxet	549 99	
Barn expenses	311 40	
Horses, wagons, harnesses, etc	220 26	
Analyses of water	90 00	
Pipe yard, office expenses	57 25	
Sundries	50 00	
Public drinking fountains and troughs	23 20	
Real estate at Pawtuxet	22 50	
		2,827 92
		$19,969 29

The amount of expenditures from April 1 to June 30, 1900, inclusive, was . $36,647 67

The total expenditures to June 30, 1900, inclusive, were $8,961,069 33

The *net* expenditure for construction and extension from April 1 to June 30, 1900, inclusive, was	$15,191 66
The *net* expenditure for construction and extension to June 30, 1900, inclusive, was	$6,466,893 26
The *net* expenditure for maintenance from April 1 to June 30, 1900, inclusive, was	$13,116 89
The *net* expenditure for maintenance to June 30, 1900, inclusive, was	$1,572,531 03

The value of the water works system, January 1, 1900, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	138,032 80	
Sockanosset, Hope and Fruit Hill reservoirs	736,596 42	
Main lines and distribution pipes	2,730,451 99	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	32,034 63	
		$3,993,784 84

Bills deposited with the city treasurer for collection from April 1 to June 30, 1900, inclusive, amounted to . . . $66,925 98

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As follows:

Water	$59,170 32
Water meters	3,884 50
Setting and repairing meters	1,760 52
Repairs on pipe line	380 96
Rent of real estate	130 50
Penalties	54 00
Permanently closing service stops	20 00
Labor and material, laying services, etc	1,525 18
	$66,925 98

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $68,201 39

As follows:

Water	$59,808 27
Water meters	4,031 00
Setting and repairing meters	1,697 18
Repairs on pipe line	961 22
Rent of real estate	143 00
Penalties	54 00
Permanently closing service stops	20 00
Labor and material, laying services, etc	1,486 72
	$68,201 39

SEWERS.

During the quarter ending June 30, 1900, four hundred and twenty-six permits were issued to drain layers — two hundred and sixty-five for new work and one hundred and sixty-one for extension and repairs of drains.

Five drain layers' licenses were issued during the quarter, making the total number thirty-nine, all of which expire December 31, 1900.

April 6th, the proposal of Charles M. Kelly to furnish and deliver Portland and Rosendale cement upon the work, as required, was accepted at prices as follows:

For Portland cement, if furnished in barrels, at $2.65 per barrel; if furnished in bags, at $2.50 per barrel, four bags to the barrel.

For Brooklyn Bridge Rosendale cement at $1.15 per barrel.

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April 6th, the proposal of the Long Island Brick Company to furnish and deliver on the city wharf 1,000,000 hard-body sewer brick, at $6.50 per M., was accepted and a contract subsequently executed.

May 7th, the proposal of Hartwell, Williams & Kingston for building a chemical house and laboratory building at the precipitation tanks at Field's Point, was accepted and a contract executed for same. Amount, $13,400.

June 1st, the proposal of Fred W. Morse to furnish copper floats for the sewage works at Field's Point was accepted. Amount, $325.

June 1st, the proposal of Mills, Horton & Reed to furnish and erect an auxiliary main, from boilers to engines, at Ernest street pumping station, was accepted. Amount, $1,487.

June 30th, the proposal of Interstate Coal Company to furnish and deliver coal at Ernest street pumping station, as required, from July 1, 1900, to July 1, 1901, was accepted, as follows:

New River, at $3.50 per ton of 2,000 pounds.
Big Vein Cumberland, at $3.25 per ton of 2,000 pounds.

During the quarter, assessments for the cost of constructing sewers were certified to the city treasurer as follows:

Plainfield street and Olneyville square	$7,511 27
Plainfield, Heath and Rye streets and Webster avenue	10,000 75
Bancroft street, from Magnolia to Roosevelt	932 82
Exchange place, from Exchange street to Dorrance	881 53
Sterling avenue and Bancroft street	3,006 01
Pocasset and Whittier avenues, Bancroft and Atwood streets	11,862 22
Angell street and Blackstone park	2,121 10
Mulberry, State and Holden streets	3,942 98
Manton avenue, from Erastus street to King, and from Sisson to Unit	4,154 02
Parnell street, from its northerly termination to Atwells avenue	4,096 99
Morris avenue, Olney street and Elmgrove avenue	7,149 57
Putnam and Zone streets	3,468 20
Appleton street, from Bowdoin to Julian	1,015 01
Total	$60,142 47

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April 5th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
412.	Nov. 21, 1899,	*Balaklava street, from near Pekin to Douglas avenue,*	$250 40
413.	" " "	*Burnside street, from near Colfax to Thurbers avenue,*	150 30
414.	" " "	*Capron street, from near Julian to Chaffee,* .	375 10
433.	Dec. 8, "	*Livingstone and North Main streets and Branch avenue,* . . .	1,958 00
434.	" " "	*Atwells avenue, from the railroad bridge to near Eagle street,* . .	223 80
435.	" " "	*River and Chalkstone avenues,*	682 00

May 5th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
121.	April 14, 1900,	*Alger and Pacific avenues,*	$1,998 20
122.	" " "	*Dudley street, from Plain to Eddy,* . . .	5,330 50
123.	" " "	*Ralph street, from Dorchester avenue to Plainfield street,* . . .	572 20
124.	" " "	*Waterman street, from near Gano to Wayland avenue,*	770 20

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No. of resolution.	Date of approval.			
146.	April 25, 1900,	*Cemetery and Frost streets,*	$7,613	20
147.	" " "	*Admiral and Berkshire streets,* . . .	7,357	30
148.	" " "	*Webster avenue, from Laban street to Eastwood avenue,*	199	20

June 20th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

To Frederick E. Shaw.

No. of resolution.	Date of approval.			
244.	June 11, 1900,	*Calla street, from Eddy to Broad,* . . .	$408	30
245.	" " "	*Ontario street, from Broad to Hamilton,* . .	1,140	60
246.	" " "	*Durfee street, from near Hammond to Harrison,* .	216	00
247.	" " "	*Winchester place, from Melrose street to Elmwood avenue,*	861	40

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
324.	Sept. 12, 1899,	*Adelaide avenue, Miner and Oxford streets,*	April 28, 1900.
329.	" " "	*Young avenue and Federal street,* .	May 16, 1900.
412.	Nov. 21, "	*Balaklava street, from near Pekin to Douglas avenue,* . .	May 23, 1900.
413.	" " "	*Burnside street, from near Colfax to Thurbers avenue,* . .	May 1, 1900.
414.	" " "	*Capron street, from near Julian to Chaffee,*	June 12, 1900.

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No. of resolution.	Date of approval.		Date of completion.
433.	Dec. 8, 1899,	*Livingstone and North Main streets and Branch avenue,* .	May 24, 1900.
434.	" " "	*Atwells avenue, from the railroad bridge to near Eagle street,* .	June 6, 1900.
435.	" " "	*River and Chalkstone avenues,* . .	June 1, 1900.

At the close of the quarter, work upon the following sewer of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
406.	July 15, 1889,	*Section 2, Sewage Precipitation Tanks, Improved Sewerage System.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
326.	Sept. 12, 1899,	*Charles and Printery streets.*
327.	" " "	*Laban street, Eastwood avenue, Webster avenue, Heath street and Hartford avenue.*
121.	April 14, 1900,	*Alger and Pacific avenues.*
124.	" " "	*Waterman street, from near Gano to Wayland avenue.*
146.	" 25, "	*Cemetery and Frost streets.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced June 30, 1900, namely:

No. of resolution.	Date of approval.	
328.	Sept. 12, 1899,	*Roosevelt street, from Laurel Hill avenue to Webster.*
385.	Oct. 20, "	*Whittier avenue, from near Ralph street to Dewey.*

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No. of resolution.	Date of approval.	
122.	April 14, 1900,	*Dudley street, from Plain to Eddy.*
123.	" " "	*Ralph street, from Dorchester avenue to Plainfield street.*
147.	" 25, "	*Admiral and Berkshire streets.*
148.	" " "	*Webster avenue, from Laban street to Eastwood avenue.*
244.	June 11, "	*Calla street, from Eddy to Broad.*
245.	" " "	*Ontario street, from Broad to Hamilton.*
246.	" " "	*Durfee street, from near Hammond to Harrison.*
247.	" " "	*Winchester place, from Melrose street to Elmwood avenue.*
273.	" 23, "	*Broad street, east side, from about 114 feet north of Elma street to end of sewer south of Elma street.*
274.	" " "	*Ellery street, from Wendell to Union avenue.*

The amount of bills approved on account of sewers from April 1 to June 30, 1900, inclusive, was as follows:

Regular appropriation	$43,653 01	
Improved sewerage appropriation	43,090 86	
		$86,743 87

Charged as follows:

Material	$12,030 26
Contract reservations	11,679 00
Sundries	2,187 22
Additional catch-basins	342 32
Testing cement	281 25
Tools	31 72
Sewer in Adelaide avenue, Miner and Oxford streets	922 22
Sewer in Alger and Pacific avenues	1,401 33
Sewer in Atwells avenue, from railroad bridge to near Eagle street	282 76
Amount carried forward	$29,158 08

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Amount brought forward	$29,158 08
Sewer in Balaklava street, from near Pekin to Douglas avenue	414 79
Sewer in Burnside street, from near Colfax to Thurbers avenue	221 38
Sewer in Capron street, from near Julian to Chaffee	577 75
Sewer in Cemetery and Frost streets	5,326 52
Sewer in Charles and Printery streets	25 93
Sewer in Laban street, Eastwood and Webster avenues, Heath street and Hartford avenue	12,365 77
Sewer in Livingstone, and North Main streets and Branch avenue	2,985 53
Sewer in Manton avenue, from Steuben street to Hyat	203 97
Sewer in Plainfield, Heath and Rye streets, and Webster avenue	826 71
Sewer in Princeton avenue and Sayles street	53 68
Sewer in River and Chalkstone avenues	1,019 49
Sewer in Union, Webster and Pacific avenues	44 67
Sewer in Waterman street, from near Gano to Wayland avenue	887 36
Sewer in Young avenue and Federal street	707 60
Chemical and laboratory buildings — to erect	121 30
Machinery for sludge press-house	6,757 59
Salaries of assistant engineers	1,350 00
Sewage precipitation tanks — to build	14,103 22
Sewage sludge filter presses	2,963 74
Sludge press-house — to build	5,980 14
Sundries, improved sewerage system	648 65
	$86,743 87

For maintenance, ... $14,454 32

Classified as follows:

Cleaning basins and sewers	$4,429 74
Repairing basins and sewers	2,562 84
Tools	827 04
Inspection of connections	743 62
Cleaning and repairing old drains	543 65
Salary — superintendent	442 00
Sundries	433 68
Barn expenses	406 48
Horses, wagons, harnesses, etc	200 53
Cleaning private connections	70 00
Repairs on buildings, sewer maintenance yard	34 56
Office expenses	28 62
Repairs on gate-houses	18 96
Filling cisterns, etc	8 37
Telephone lines	1 64
Amount carried forward	$10,751 73

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Amount brought forward	$10,751 73	

ERNEST STREET STATION.

Engineers	817 33	
Coal and wood	795 83	
Cleaning screens	659 79	
Firemen	417 62	
Repairs on buildings	223 83	
Care of grounds	222 78	
Cleaning and repairing pumps	221 39	
Supplies	204 32	
Lights	56 45	
Repairs on boilers	46 78	
Repairs on engines	27 73	
Care of buildings	8 74	
	$14,454 32	

The *net* expenditure for construction of sewers to June 30, 1900, inclusive, was	$6,676,810 98
The *net* expenditure for maintenance of sewers to June 30, 1900, inclusive, was	$701,636 89

Bills deposited with the city treasurer for collection from April 1 to June 30, 1900, inclusive, amounted to . . . $803 79

As follows:

Miscellaneous work	$284 16	
Cleaning private connections	79 50	
Filling cisterns, etc	10 87	
Sewer material	394 66	
Laying drains to curbstones	29 40	
Testing cement	5 20	
	$803 79	

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . $699 84

As follows:

Miscellaneous work	$176 71	
Cleaning private connections	76 50	
Flooding rink for Brown University	10 90	
Filling cisterns, etc	10 87	
Sewer material	394 66	
Laying drains to curbstones	29 40	
Testing cement	80	
	$699 84	

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HIGHWAYS.

Four permits to open streets were issued during the quarter.

May 24th, the proposal of Smithfield Granite Company to recut paving blocks on the street, for the sum of $14.50 per thousand, and to cut new paving blocks out of old crosswalk stones, etc., at the city yard, for the sum of $17 per thousand, was accepted.

June 27th, the proposal of Rhode Island Concrete Company to lay a wearing surface of Trinidad asphalt in Lily street, from Spruce street to Atwells avenue, for the sum of seventy-five cents per square yard, was accepted.

June 9th, statements of the cost of concreting sidewalks in sundry streets, under authority conferred by the city council by Resolution No. 446, approved September 27, 1895, with ten per centum added to cover the cost of assessing and collecting, were certified to the assessors of taxes, amounting to the sum of $2,037.35.

During the quarter the following work was completed:

Sidewalks to be Curbed and Gutters Paved.

Date of order.			
April	20,	1899,	*Waldo street, from Salem to Dexter.*
Sept.	21,	"	*Bancroft street, from Sterling avenue to Kelly street.*
"	"	"	*Pleasant street, from Ivy to East avenue.*
"	"	"	*Sterling avenue, from Webster to Bancroft street.*
"	"	"	*Union avenue, from the present end of curbing to Webster avenue.*

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Date of order.	
Sept. 21, 1889,	*Waldo street, from Cranston to Sorrento.*
May 17, 1900,	*Trenton street, from Ives to Gano.*
June 7, "	*Hayward street, from end of curbing to Lockwood street.*

TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution.	Date of approval.	
96.	Mar. 7, 1899,	*Charles street, from Lock to Randall square.*
121.	" 24, "	*Canal street extension and Mill street.*

TO BUILD.

No. of resolution.	Became a law.	
192.	May 18, 1899,	*Exchange place and extension of Exchange street.*

TO TAKE POSSESSION AND PUT IN GOOD CONDITION.

No. of resolution.	Date of approval.	
117.	April 14, 1900,	*Dorrance street, from Dyer street to its southerly termination.*

The following was repealed by Resolution No. 264, approved June 23, 1900, namely:

TO DRIVE PILES AND SET CURBING.

No. of resolution.	Date of approval.	
282.	Aug. 10, 1899,	"*The Carrie Brown Memorial Fountain,*" *Exchange place.*

The following work was in progress June 30, 1900, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
June 21, 1900,	*Lily street, from Spruce to Atwells avenue.*
" " "	*Tefft street, from Atwells avenue to West Exchange street.*

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The following work, ordered by the board of aldermen and city council, had not commenced June 30, 1900, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
June 21, 1900,	*Berkshire street, from Admiral to June.*
" " "	*Elmgrove avenue, from Irving to Humboldt.*

TO GRADE AND REPAIR, WHEN ABUTTING OWNERS CURB AND PAVE GUTTERS.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

No. of resolution.	Date of approval.	
119.	April 14, 1900,	*Olney street, from Morris avenue to Arlington.*
149.	" 25, "	*Elmgrove avenue, east side, from President to Doyle, and west side, from President to Hazard.*

TO GRADE, WHEN UNION RAILROAD COMPANY IS AUTHORIZED TO EXTEND ITS RAILS.

455. Dec. 30, 1898, *Douglas avenue, from Chad Brown street to Admiral.*

TO BUY AND SET STONE BOUNDS.

478. Jan. 2, 1899, *New boundary line between the city of Providence and the town of Johnston.*

TO REMOVE RAILS OF PROVIDENCE & WORCESTER RAILROAD COMPANY, ET AL.

323. Sept. 12, 1899, *Canal street, Market square and South Water street.*

TO BUILD FOUNDATIONS, ETC.

264. June 23, 1900, *"Carrie Brown Memorial Fountain," City Hall park.*

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Bills approved on account of highways from April 1 to June 30, 1900, inclusive, amounted to:

Regular appropriation	$89,678 77	
Special appropriation	2,399 70	
Special credit appropriation	3,686 37	
		$95,764 84

Classified as follows:

Repairs on unpaved streets	$27,773 48	
Cleaning streets	19,883 64	
Crushed stone — material and labor	11,996 31	
Repairs on paved streets	6,618 83	
Barn expenses	2,790 56	
Blacksmith and wheelwright shop	2,488 82	
Stone — paving and crosswalk	1,879 51	
Repairs on stone-crushers	933 43	
Tools, implements, etc.	844 24	
Steam rollers — repairs and supplies	730 97	
Horses, wagons, harnesses, etc.	549 41	
Salary, superintendent	442 00	
Labor on material	420 08	
Building driveways, etc.	293 90	
Watering streets	171 83	
Watchman at city yard	156 00	
Repairs on buildings, highway yard	137 18	
Sundries	106 25	
Office expenses, city yard	42 44	
Fencing streets — material and labor	6 83	
		$78,265 71

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Bancroft street, from Sterling avenue to Kelly street	$1,467 04	
Hayward street, from present end of curb northerly to Lockwood	129 21	
Pleasant street, from Ivy to East avenue	1,815 64	
Sterling avenue, from Webster to Bancroft street	1,756 94	
Trenton street, from Ives to Gano	1,023 70	
Union avenue, from present end of curb to Webster avenue	3,873 04	
Waldo street, from Cranston to Sorrento	1,172 63	
Waldo Street, from Salem to Dexter	1,019 11	
		12,257 31
Amount carried forward		$90,523 02

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Amount brought forward		$90,323 02
Pave with Granite Blocks.		
Canal and Mill streets	$1,968 37	
Charles street, from Lock to Randall square	431 33	
		2,399 70
Take Possession and Put in Good Condition.		
Dorrance street, from Dyer to its southerly termination		179 45
To Rebuild.		
Mill street bridge		2,662 67
		$95,764 84

Bills deposited with the city treasurer for collection from April 1 to June 30, 1900, inclusive, amounted to $3,093 26

As follows:

Labor and material	$2,103 37
Boarding horses for other departments	416 12
Blacksmith and harness work for other departments	278 77
Street sweepings	220 00
Manure from barn	75 00
	$3,093 26

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $2,470 71

As follows:

Labor and material	$1,442 47
Boarding horses for other departments	416 12
Blacksmith and harness work for other departments	289 52
Street sweepings	247 60
Manure from barn	75 00
	$2,470 71

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SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from April 1 to June 30, 1900, inclusive, amounted to . . . $8,296 95

Charged as follows:

Granite curbing	$7,140 92
Concreting sidewalks	1,083 53
Repairing sidewalks and gutters	72 50
	$8,296 95

Bills deposited with the city treasurer for collection from April 1 to June 30, 1900, inclusive, amounted to $194 88

As follows:

Curbing bills	$134 87
Discharging cargoes at city wharf	60 01
	$194 88

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $2,557 17

As follows:

Curbing bills	$2,497 16
Discharging cargoes at city wharf	60 01
	$2,557 17

CITY ENGINEER.

Bills approved on account of the city engineer's department from April 1 to June 30, 1900, inclusive, amounted to . . $12,502 44

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Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,822 05
Salaries of clerks	789 75
Car fares	409 70
Supplies — drawing material, etc	340 53
Sundries	12 05
Carriage hire	2 56
Instruments and repairs	80
	$12,502 44

BRIDGES.

During the quarter, the following work was completed, namely:

No. of resolution.	Date of approval.	
95.	March 7, 1899,	*Mill street bridge over the Moshassuck river.*

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
158.	April 20, 1897,	*Weybosset bridge and river walls.*
187.	May 20, 1898,	*Weybosset bridge extension.*
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*

Bills approved on account of bridges, from April 1 to June 30, 1900, inclusive, amounted to $6,499 46

Charged as follows:

Acorn street bridge	$96 27
Atwells avenue bridge	33 40
Barn expenses	105 62
Building at city yard	42
Crawford street bridge	142 03
Delaine street bridge	21 54
Eagle street bridge	293 26
Exchange bridge	52 90
Amount carried forward	$745 44

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Amount brought forward	$745 44
Gaspee street bridge	39 07
Horses, wagons, harnesses, etc	30 95
Lumber, hardware, etc	212 77
Manton avenue bridge	85 44
Mill street bridge	28
Park street bridge	8 71
Point street bridge	1,245 70
Randall street bridge	2 95
Red bridge	1,296 24
Rent of keeper's house, Washington bridge	30 00
Salaries — Point street bridge	978 25
Salaries — Red bridge	513 00
Salaries — Washington bridge	482 75
Sundries	49 30
Tools	127 12
Valley street bridge — north span	42
Valley street bridge — south span	22 95
Washington bridge	575 65
Weybosset bridge	20 72
Whelden street bridge	31 75
	$6,499 46

Bills deposited with the city treasurer for collection from April 1 to June 30, 1900, inclusive, amounted to $192 22

As follows:

Providence Tow and Steamboat Company, for colliding with Point street bridge	$135 97
New York, New Haven and Hartford Railroad Company, restoring sidewalk on Crawford street bridge	50 75
Old lumber	5 50
	$192 22

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $192 22

As follows:

Providence Tow and Steamboat Company, for colliding with Point street bridge	$135 97
New York, New Haven and Hartford Railroad Company, restoring sidewalk on Crawford street bridge	50 75
Old lumber	5 50
	$192 2[illegible]

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PUBLIC LIGHTS.

Under the provisions of chapter 70, of the Ordinances, approved April 25, 1900, the general control and supervision of all public lights was placed in the commissioner of public works, acting under the advice and direction of the joint committee on lights.

May 12th, a contract was entered into between the city of Providence and the Narragansett Electric Lighting Company for 1,850 incandescent street lights, and by resolution of the committee on lights, the commissioner of public works was authorized and requested to fix the locations for all poles and wires that are required under said contract.

Records of the locations of the several classes of lights are being prepared.

Bills approved on account of the public lights department, from May 1 to June 30, 1900, inclusive, amounted to . . . $73,959 52

Charged as follows:

Arc lights	$58,728 85
Gasolene lights	9,193 48
Gas for street lights	3,261 30
Automatic gas lighting	1,659 86
Incandescent lights	510 00
Salaries	357 00
Barn expenses	112 52
Setting and removing gas posts	54 76
Supplies for repairing posts and lanterns	53 58
Horses, wagons, harnesses, etc	26 05
Office furniture and supplies	2 12
	$73,959 52

Bills deposited with the city treasurer for collection from May 1 to June 30, 1900, inclusive, amounted to $463 42

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As follows:

Old copper and iron	$268 43
Lamp posts, lanterns and burners	163 00
Removing and repairing gas posts	21 99
Office desk and chairs	10 00
	$463 42

Coupons from bills collected from May 1 to June 30, 1900, inclusive, have been returned by the city treasurer and receipted for to the amount of $453 42

As follows:

Old copper and iron	$268 43
Lamp posts, lanterns and burners	163 00
Removing and repairing gas posts	21 99
	$453 42

PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from April 1 to June 30, 1900, inclusive, amounted to . . . $5,080 79

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	2,985 99
Office supplies	169 80
	$5,080 79

CONTINGENCIES.

Bills approved for the inspection of electric wires from April 1 to June 30, 1900, inclusive, have been paid from the appropriation for contingencies to the amount of $16 80

ROBERT E. SMITH,
Commissioner.

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SEVENTY-FIRST QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING SEPTEMBER 30, 1900.

The Providence Press.
SNOW & FARNHAM, CITY PRINTERS.
75 Westminster Street.
1900.

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SEVENTIETH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING JUNE 30, 1900.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
63 Washington Street.
1900.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., October 1, 1900.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-first quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending September 30, 1900:

WATER WORKS.

August 21st, the proposal of L. H. Tillinghast Supply Company to furnish and deliver 5,000 pounds of $\frac{5}{8}$-inch lead pipe at 4.8 cents per pound, was accepted.

The average daily consumption of water during the quarter was 11,591,766 gallons.

Water pipes were laid during the quarter as follows:

24-INCH.	
In Broadway	167.50 feet.
8-INCH.	
In Sterling avenue; in Laurel Hill, Pontiac and Reservoir avenues in the town of Cranston; and in Smith street in the town of North Providence	1,405.41 feet.
6-INCH.	
In Berkshire, Brook, Bush, Calla, Edna, Ethan, Hassan, Hauxhurst, Hilarity, Ida, Jastram, Jewell, Manning, Moorefield, Roger, Swiss, Sassafras, Tiber and Wendell streets; Clinton, Elmgrove, Pacific and Silver Lake avenues; and in Dewey, Lancaster, Norfolk, Northup and Randall streets; Garfield, Reservoir, Terrace and Whipple avenues in the town of Cranston	8,487.44 feet.
Total	10,060.35 feet.

or, 1.905 + miles.

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Water pipes were removed during the quarter as follows:

From Terrace and Webster avenues in the town of Cranston 656.36 feet.

or, .124 + mile.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	96,104.74 feet.
10-inch	15,057.14 feet.
8-inch	270,913.10 feet.
6-inch	1,158,452.81 feet.
Total	1,699,409.92 feet.

or, 321.857 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Eleven fire hydrants have been set during the quarter, one in each of the following locations:

Berkshire street, southeast side, 3 feet northeast of June street.

Hilarity street, east side, 200 feet north of Hartford avenue.

Laurel Hill avenue, Cranston, east side, northeast corner of Dover street.

Olney street, north side, 139 feet west of west building line of Arlington avenue.

Progress avenue, north side, 238.5 feet east of east building line of Webster avenue.

Sterling avenue, north side, 12 feet west of west building line of Priscilla avenue.

Sterling avenue, north side, northeast corner of Whitehall street.

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Tiber street, east side, 1.5 feet north of north building line of Swiss street.
Wallace street, north side, northeast corner of Webster avenue.
Whitehall street, east side, northeast corner of Dora street.
Whitehall street, east side, northeast corner of Wallace street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred and seventy-six — seventeen hundred and ninety-one flush, and eighty-five post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter, two hundred and fifty-one water meters were set, of which number sixty-four were to replace other meters.

The use of seven meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1¼-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,720	553	131	16	6	.....	.....	.....	3,426
Ball & Fitts, rotary	.....	.....	6	11	.....	2	1	.....	20
Crown	8,326	870	264	121	31	21	17	.....	9,670
Empire	406	64	35	33	8	.....	1	.....	547
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	9	23	11	2	45
Thomson	3,324	422	76	54	22	7	7	2	3,914
Trident	28	.....	.....	.....	.....	.....	.....	.....	28
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	14,805	1,910	513	235	77	53	37	4	17,634

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Four plumbers' licenses were issued during the quarter, making the total number one hundred and twenty-two, all of which expire December 31, 1900.

Seven hundred and fifty-nine permits to do plumbing work were issued during the quarter.

One hundred and ninety-four applications for water were made during the quarter, making the total number, September 30, 1900, twenty-four thousand and eight.

The number of new service stops opened during the quarter was one hundred and eighty-six.

The total number of service stops opened to September 30, 1900, inclusive, was twenty-three thousand three hundred and twenty-seven. The number in actual use September 30, 1900, was twenty-one thousand five hundred and twenty-two.

The amount of bills approved on account of water works from July 1 to September 30, 1900, inclusive, was:

For construction and extension, . . . $7,222 09

Classified as follows:

Laying water pipe	$4,061 25
Laying service pipe	941 06
Special castings	612 86
Service pipe	561 91
Wharf salaries	214 50
Taps and stops	196 56
Barn expenses	185 49
Tools	156 65
Labor on and carting pipe	142 80
Stop valves	64 00
Horses, wagons, harnesses, etc	40 38
Repairs on pipe yard buildings	25 68
Patterns for special castings	18 75
Fire hydrants, boxes and covers	20
	$7,222 09

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For maintenance, ... $27,258 59

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$5,303 70	
Sundries	721 63	
Engineers	616 13	
Firemen	553 80	
Superintendence	299 00	
Labor on fuel	111 26	
Repairs on boilers	108 04	
Oil, waste and packing	105 50	
Corliss pumping engine and house	73 99	
Barn expenses	41 66	
Care of grounds	30 63	
Worthington high-duty pumping engine	23 98	
		$7,989 32

SOCKANOSSET RESERVOIR.

Watchman	$184 00	
Sundries	141 80	
		325 80

HOPE PUMPING STATION.

Coal and wood	$2,025 00	
Firemen	480 20	
Engineers	299 00	
Lights	74 55	
Sundries	43 60	
Oil, waste and packing	14 32	
Holly pumping engine	6 50	
Care of grounds	6 00	
Repairs on boilers	83	
		2,950 00

HOPE RESERVOIR.

Watchman	$204 75	
Sundries	151 24	
		355 99

FRUIT HILL RESERVOIR.

Sundries	$1,030 29	
Watchman	207 00	
		1,237 29

PIPE LINE AND SERVICE STOPS.

Repairs	$4,259 25	
Superintendence — salaries	848 55	
		5,107 80
Amount carried forward		$17,966 20

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Amount brought forward		$17,966 20

METER DEPARTMENT.

Water meters	$4,046 14	
Setting and repairing meters	1,669 58	
		5,715 72

MISCELLANEOUS.

Clerks' and inspectors' salaries	$1,503 32	
Prevention of defilement of the Pawtuxet	550 59	
Telephone lines	525 87	
Inspection of water pipe with reference to electrolysis	500 00	
Barn expenses	226 69	
Analyses of water	90 00	
Horses, wagons, harnesses, etc.	68 28	
Sundries	60 55	
Public drinking fountains and troughs	38 55	
Pipe yard, office expenses	12 82	
		3,576 67
		$27,258 59

The amount of expenditures from July 1 to September 30, 1900, inclusive, was . $34,480 68

The total expenditures to September 30, 1900, inclusive, were $8,995,550 01

The *net* expenditure for construction and extension from July 1 to September 30, 1900, inclusive, was	$3,241 33
The *net* expenditure for construction and extension to September 30, 1900, inclusive, was	$6,470,134 59
The *net* expenditure for maintenance from July 1 to September 30, 1900, inclusive, was	$21,224 14
The *net* expenditure for maintenance to September 30, 1900, inclusive, was	$1,593,755 17

The value of the water works system, January 1, 1900, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	138,032 80	
Sockanosset, Hope and Fruit Hill reservoirs	736,596 42	
Main lines and distribution pipes	2,730,451 99	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	32,034 63	
		$3,993,784 84

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Bills deposited with the city treasurer for collection from July 1 to September 30, 1900, inclusive, amounted to . . $72,501 56

As follows:

Water	$61,641 14
Water meters	4,222 75
Setting and repairing meters	1,663 30
Repairs on pipe line	826 86
Rent of real estate	75 50
Penalties	64 00
Permanently closing service stops	30 00
Labor and material, laying services, etc	3,978 01
	$72,501 56

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $69,952 86

As follows:

Water	$59,873 65
Water meters	4,150 25
Setting and repairing meters	1,410 20
Repairs on pipe line	368 50
Rent of real estate	75 50
Penalties	64 00
Permanently closing service stops	30 00
Labor and material, laying services, etc	3,980 76
	$69,952 86

The amount of bills approved on account of water works for the fiscal year ending September 30, 1900, inclusive, was:

For construction and extension, . . $46,934 95

Classified as follows:

Laying water pipe	$18,333 25
Cast iron water pipe	6,948 11
Fire hydrants, boxes and covers	6,523 38
Laying service pipe	3,464 66
Special castings	3,376 40
Amount carried forward	$38,645 80

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Amount brought forward	$38,645 80	
Service pipe	1,529 11	
Taps and stops	1,503 49	
Stop valves	1,116 84	
Barn expenses	973 89	
Wharf salaries	858 00	
Pig lead and tin	550 79	
Labor on and carting pipe	492 80	
Tools	484 28	
Repairs on pipe yard buildings	341 78	
Horses, wagons, harnesses, etc.	177 13	
Patterns for special castings	129 72	
Public drinking fountains and troughs	129 20	
Sundries	2 12	
	$46,934 95	

For maintenance, ... $98,487 55

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$12,889 28	
Babcock and Wilcox boilers, No. 2, to erect	3,225 32	
Sundries	2,350 90	
Engineers	2,192 12	
Firemen	1,808 60	
Superintendence	1,196 00	
Cornish engine house	732 43	
Care of grounds	316 53	
Oil, waste and packing	314 56	
Labor on fuel	276 11	
Repairs on boilers	199 94	
Barn expenses	184 11	
Worthington high-duty pumping engine	104 54	
Corliss pumping engine and house	73 99	
Real estate	63 85	
Lights	26 36	
		$25,954 64

SOCKANOSSET RESERVOIR.

Watchman	$730 00	
Sundries	434 95	
		1,164 95

HOPE PUMPING STATION.

Coal and wood	$2,475 00	
Firemen	1,844 30	
Engineers	1,196 00	
Amounts carried forward	$5,515 30	$27,119 59

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Amounts brought forward	$5,515 30	$27,119 59
Repairs on boilers	914 65	
Holly pumping engine	380 19	
Lights	294 21	
Sundries	200 72	
Oil, waste and packing	52 90	
Care of grounds	46 25	
Hope pumping engine, No. 2	1 40	
		7,405 62

HOPE RESERVOIR.

Watchman	$819 00	
Sundries	479 14	
		1,298 14

FRUIT HILL RESERVOIR.

Sundries	$2,820 16	
Watchman	821 25	
		3,641 41

PIPE LINE AND SERVICE STOPS.

Repairs	$14,415 68	
Superintendence — salaries	3,397 61	
		17,813 29

METER DEPARTMENT.

Water Meters	$15,650 50	
Setting and repairing meters	6,295 38	
		21,945 88

MISCELLANEOUS.

Town of Cranston, tax	$7,077 69	
Clerks' and inspectors' salaries	6,005 28	
Prevention of defilement of the Pawtuxet	2,200 56	
Barn expenses	1,171 43	
Telephone lines	525 87	
Inspection of water pipes with reference to electrolysis	500 00	
Horses, wagons, harnesses, etc	407 19	
Town of North Providence, tax	400 00	
Analyses of water	360 00	
Sundries	212 61	
Pipe yard, office expenses	204 25	
Public drinking fountains and troughs	94 74	
Real estate at Pawtuxet	76 50	
Town of Lincoln, tax	27 50	
		19,263 62
		$98,487 55

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SEWERS.

During the quarter ending September 30, 1900, four hundred permits were issued to drain layers — two hundred and thirty-four for new work and one hundred and sixty-six for extension and repairs of drains.

One drain layer's license was issued during the quarter, making the total number forty, all of which expire December 31, 1900.

September 11th, the offer of A. A. Presbrey & Son Company to furnish nineteen floats for the precipitation tanks at Field's Point was accepted. Amount, $495.

September 14th, the proposal of J. W. Hunt & Company for heating the laboratory, press house and chemical building at Field's Point, was accepted. Amount, $1,504.44.

August 3d, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

To Frederick E. Shaw.

No. of resolution.	Date of approval.		
273.	June 23, 1900,	*Broad street, east side, at Elma street,* . .	$196 40
274.	" " "	*Ellery street, from Wendell to Union avenue,* . .	901 20
314.	Aug. 3, "	*River avenue, from Harvest street to Berkley,* . .	296 90
315.	" " "	*Deborah street, from near Dorchester avenue to Plainfield street,* . . .	397 20
316.	" " "	*Thayer street, from near Angell to Waterman,* .	224 70

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September 14th, a contract for the construction of the following sewer was awarded and subsequently executed, namely:

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
346.	Sept. 12, 1900,	*Admiral street, from Douglas avenue to Berkshire street,* . . .	$3,824 50

September 18th, contracts for the construction of sewers in the following sections of the Improved Sewerage System were awarded and subsequently executed, namely:

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
349.	Sept. 12, 1900,	*Section 24, Moshassuck Division,* . . .	$31,107 20
349.	" " "	*Section 25, Moshassuck Division,* . . .	14,567 00
349.	" " "	*Section 26, Moshassuck Division,* . . .	6,762 40

September 24th, a contract for the construction of the following sewer was awarded and subsequently executed, namely:

TO TIMOTHY F. LYONS & CO.

No. of resolution.	Date of approval.		
347.	Sept. 12, 1900,	*Pond street and an alleyway, from Fenner street to Winslow,* . . .	$254 04

September 24th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

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To Frederick E. Shaw.

No. of resolution.	Date of approval.		
348.	Sept. 12, 1900,	*East George street, from Governor to Ives,* . .	$331 10
350.	" " "	*East Transit street, from Ives street to tide water* .	589 50
351.	" " "	*Priscilla avenue, from Sterling to Union,* . .	1,428 35

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
406.	July 15, 1889,	*Section 2, Sewage Precipitation Tanks, Improved Sewerage System,* . . .	Sept. 22, 1900.
326.	Sept. 12, 1899,	*Charles and Printery streets,* . . .	Sept. 18, 1900.
327.	" " "	*Laban street, Eastwood avenue, Webster avenue, Heath street and Hartford avenue,* . .	July 7, 1900.
328.	" " "	*Roosevelt street, from Laurel Hill avenue to Webster,* . .	Aug. 2, 1900.
385.	Oct. 20, "	*Whittier avenue, from near Ralph street to Dewey,* . .	Aug. 8, 1900.
121.	April 14, 1900,	*Alger and Pacific avenues,* . . .	Sept. 8, 1900.
123.	" " "	*Ralph street, from Dorchester avenue to Plainfield street,* . .	Aug. 2, 1900.

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No. of resolution.	Date of approval.		Date of completion.
124.	April 14, 1900,	*Waterman street, from near Gano to Wayland avenue,* . .	July 5, 1900.
146.	" 25, "	*Cemetery and Frost streets,* . . .	Sept. 13, 1900.
148.	" " "	*Webster avenue, from Laban street to Eastwood avenue,* . .	Aug. 10, 1900.
244.	June 11, "	*Calla street, from Eddy to Broad,* . .	Aug. 27, 1900.
245.	" " "	*Ontario street, from Broad to Hamilton,*	Sept. 14, 1900.
247.	" " "	*Winchester place, from Melrose street to Elmwood avenue,* . .	Sept. 22, 1900.
273.	" 23, "	*Broad street, east side, from about 114 feet north of Elma street to end of sewer south of Elma street,* . .	Aug. 29, 1900.
314.	Aug. 3, "	*River avenue, from Harvest street to Berkley,* . . .	Aug. 18, 1900.
315.	" " "	*Deborah street, from near Dorchester avenue to Plainfield street,*	Aug. 13, 1900.
316.	" " "	*Thayer street, from near Angell to Waterman,* . . .	Aug. 22, 1900.

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
122.	April 14, 1900,	*Dudley street, from Plain to Eddy.*
147.	" 25, "	*Admiral and Berkshire streets.*

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No. of resolution.	Date of approval.	
274.	June 23, "	*Ellery street, from Wendell to Union avenue.*
346.	Sept. 12, "	*Admiral street, from Douglas avenue to Berkshire street.*
350.	" " "	*East Transit street, from Ives to tide water. (Storm sewer.)*

Work upon the following sewers, completing the work ordered by the city council, had not commenced September 30, 1900, namely:

No. of resolution.	Date of approval.	
246.	June 11, 1900.	*Durfee street, from near Hammond to Harrison.*
347.	Sept. 12, "	*Pond street and an alleyway, from Fenner street to Winslow. (Storm sewer.)*
348.	" " "	*East George street, from Governor to Ives.*
349.	" " "	*Section 24, Moshassuck Division, Improved Sewerage System.*
349.	" " "	*Section 25, Moshassuck Division, Improved Sewerage System.*
349.	" " "	*Section 26, Moshassuck Division, Improved Sewerage System.*
351.	" " "	*Priscilla avenue, from Sterling to Union.*

The amount of bills approved on account of sewers from July 1 to September 30, 1900, inclusive, was as follows:

Regular appropriation	$34,643 64	
Improved sewerage appropriation	42,832 74	
		$77,476 38

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Charged as follows:

Material	$10,097 82
Additional catch-basins	447 28
Testing cement	284 75
Sundries	137 21
Contract reservations	107 00
Sewer in Admiral and Berkshire streets	3,492 66
Sewer in Admiral street, from Douglas avenue to Berkshire street	112 39
Sewer in Alger and Pacific avenues	1,618 66
Sewer in Broad street, east side, at Elma	255 96
Sewer in Calla street, from Eddy to Broad	467 45
Sewer in Cemetery and Frost streets	4,542 39
Sewer in Charles and Printery streets	809 22
Sewer in Deborah street, from near Dorchester avenue to Plainfield street	961 34
Sewer in Dudley street, from Plain to Eddy	2,584 24
Sewer in East Transit street, from Ives to tide water	36 75
Sewer in Ellery street, from Wendell to Union avenue	115 60
Sewer in Laban street, Eastwood and Webster avenues, Heath street and Hartford avenue	1,848 64
Sewer in Livingstone and North Main streets and Branch avenue	42 35
Sewer in Manton avenue, from Steuben to Hyat	46 93
Sewer in Ontario street, from Broad to Hamilton	494 26
Sewer in Ralph street, from Dorchester avenue to Plainfield street	1,408 36
Sewer in River avenue, from Harvest street to Berkley	454 23
Sewer in Roosevelt street, from Laurel Hill avenue to Webster	2,319 47
Sewer in Thayer street, from near Angell to Waterman	416 09
Sewer in Union, Webster and Pocasset avenues	35 58
Sewer in Waterman street, from near Gano to Wayland avenue	200 40
Sewer in Webster avenue, from Laban street to Eastwood avenue	201 07
Sewer in Whittier avenue, from a point 100 feet west of Ralph street to Dewey	973 19
Sewer in Winchester place, from Melrose street to Elmwood avenue	132 35
Chemical and laboratory buildings — to erect	11,243 87
Machinery for sludge press house	3,878 88
Salaries of assistant engineers	1,378 50
Amount carried forward	$51,144 89

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Amount brought forward	$51,144 89
Sewage precipitation tanks — to build	17,145 05
Sewage sludge filter presses	3,753 90
Sludge press house — to build	3,047 97
Sundries, improved sewerage system	2,384 57
	$77,476 38

For maintenance, ... $20,934 96

Classified as follows:

Cleaning basins and sewers	$5,171 71
Sundries	2,987 10
Repairing basins and sewers	2,429 25
Cleaning and repairing old drains	1,788 42
Tools	1,192 08
Inspection of connections	712 83
Salary — superintendent	442 00
Horses, wagons, harnesses, etc	441 20
Barn expenses	302 86
Repairs on gate houses	178 75
Telephone lines	142 00
Cleaning private connections	54 00
Filling cisterns, etc	14 50
Office expenses	9 37

ERNEST STREET STATION.

Repairs on boilers	1,693 20
Coal and wood	931 17
Engineers	877 51
Cleaning screens	676 21
Firemen	417 00
Care of grounds	166 67
Cleaning and repairing pumps	152 28
Supplies	88 77
Lights	29 12
Repairs on engines	18 79
Care of buildings	18 17
	$20,934 96

The *net* expenditure for construction of sewers to September 30, 1900, inclusive, was $6,753,043 03

The *net* expenditure for maintenance of sewers to September 30, 1900, inclusive, was $721,772 28

Bills deposited with the city treasurer for collection from July 1 to September 30, 1900, inclusive, amounted to . . . $2,208 71

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As follows:

Miscellaneous work	$879 04
Cleaning private connections	60 75
Filling cisterns, etc	14 50
Old manhole frame and cover	5 84
Sundries	1,200 00
Laying drains to curbstone	35 13
Sewer material	9 05
Testing cement	4 40
	$2,208 71

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . $2,043 90

As follows:

Miscellaneous work	$692 58
Cleaning private connections	86 65
Filling cisterns, etc	14 50
Old manhole frame and cover	5 84
Sundries	1,200 00
Laying drains to curbstone	35 13
Testing cement	9 20
	$2,043 90

The amount of bills approved on account of sewers for the fiscal year ending September 30, 1900, inclusive was as follows;

Regular appropriation	$120,401 14	
Improved sewerage appropriation	137,038 06	
		$257,439 20

Charged as follows:

Material	$31,943 93
Contract reservations	13,325 00
Sundries	2,837 78
Testing cement	1,264 03
Additional catch-basins	1,101 00
Tools	57 04
Sewer in Adelaide avenue, Miner and Oxford streets	922 22
Amount carried forward	$51,451 00

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Amount brought forward	$51,451 00
Sewer in Admiral and Berkshire streets	3,492 66
Sewer in Admiral street, from Douglas avenue to Berkshire street	112 39
Sewer in Alger and Pacific avenues	3,019 99
Sewer in Appleton street, from Bowdoin to Julian.	162 38
Sewer in Atwells avenue, from railroad bridge to near Eagle street	282 76
Sewer in Balaklava street, from near Pekin to Douglas avenue	414 79
Sewer in Bancroft street, from Magnolia to Roosevelt	405 14
Sewer in Broad street, east side, at Elma	255 96
Sewer in Burnside street, from near Colfax to Thurbers avenue	221 38
Sewer in Calla street, from Eddy to Broad	467 45
Sewer in Capron street, from near Julian to Chaffee	577 75
Sewer in Cemetery and Frost streets	9,868 91
Sewer in Charles and Printery streets	835 15
Sewer in Deborah street, from near Dorchester avenue to Plainfield street	961 34
Sewer in Dudley street, from Plain to Eddy	2,584 24
Sewer in East Transit street, from Ives to tide water	36 75
Sewer in Ellery street, from Wendell to Union avenue	115 60
Sewer in Laban street, Eastwood and Webster avenues, Heath street and Hartford avenue	26,053 82
Sewer in Livingstone, and North Main streets and Branch avenue	3,027 88
Sewer in Manton avenue, from Steuben street to Hyat	1,343 18
Sewer in Ontario street, from Broad to Hamilton	494 26
Sewer in Plainfield, Heath and Rye streets, and Webster avenue	4,450 36
Sewer in Plainfield street and Olneyville square	1,140 95
Sewer in Princeton avenue and Sayles street	642 65
Sewer in Pocasset and Whittier avenues, Bancroft and Atwood streets	4,805 52
Sewer in Putnam and Zone streets	1,673 04
Sewer in Ralph street, from Dorchester to Plainfield	1,408 36
Sewer in River and Chalkstone avenues	1,019 49
Sewer in River avenue, from Harvest street to Berkley	454 23
Sewer in Roosevelt street, from Laurel Hill avenue to Webster	2,319 47
Amount carried forward	$124,098 85

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Amount brought forward	$124,098 85
Sewer in Sterling avenue and Bancroft street	1,330 42
Sewer in Thayer street, from near Angell to Waterman	416 09
Sewer in Union, Webster and Pocasset avenues	3,150 66
Sewer in Waterman street, from near Gano to Wayland avenue	1,087 76
Sewer in Webster avenue, from Laban to Eastwood	201 07
Sewer in Whittier avenue, from 100 feet west of Ralph street to Dewey	973 19
Sewer in Winchester place, from Melrose street to Elmwood avenue	132 35
Sewer in Young avenue and Federal street	707 60
Chemical and laboratory buildings — to erect	11,365 17
Connecting lateral sewers with improved sewerage system	859 07
Machinery for sludge press house	10,636 47
Salaries of assistant engineers	5,260 75
Screen house at Ernest street station	4,790 60
Sewage precipitation tanks — to build	62,434 47
Sewage sludge filter presses	9,925 74
Sludge press house — to build	17,031 68
Sundries, improved sewerage system	3,037 26
	$257,439 20

For maintenance, ... $64,818 54

Charged as follows:

Cleaning basins and sewers	$18,403 10
Repairing basins and sewers	10,228 44
Sundries	4,445 45
Tools	3,928 90
Cleaning and repairing old drains	3,739 23
Inspection of connections	2,756 36
Salary — superintendent	1,768 00
Barn expenses	1,562 05
Horses, wagons, harnesses, etc	1,193 90
Use of water	300 00
Cleaning private connections	273 20
Office expenses	231 81
Repairs on gate houses	197 71
Telephone lines	143 64
Filling cisterns, etc	36 37
Repairs on buildings, sewer maintenance yard	34 56
Amount carried forward	$49,242 72

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Amount brought forward	$49,242 72

ERNEST STREET STATION.

Engineers	3,273 42
Coal and wood	2,889 26
Cleaning screens	2,531 93
Repairs on boilers	1,746 59
Firemen	1,682 48
Cleaning and repairing pumps	1,338 96
Supplies	1,030 26
Care of grounds	534 04
Repairs on buildings	226 00
Lights	188 96
Repairs on engines	96 32
Care of buildings	37 60
	$64,818 54

HIGHWAYS.

Three permits to open streets were issued during the quarter.

August 9th, curbing bills were certified to the assessors of taxes amounting to $9,744.06.

August 22d, the proposal of J. W. Bishop Company to build the foundations for the Carrie Brown memorial fountain at the new location in City Hall park, substantially in the same manner as at the location in Exchange place, for the sum of $1,080.00, and an additional sum of $150.00 to cover the increased expense of placing the heavy cut stone on the new foundations, was accepted.

August 29th, the proposal of Calder & Carnie, of Westerly, R. I., to furnish and deliver 50,000 granite paving blocks, cut in accordance with Providence specifications, for the sum of $1.25 per square yard, was accepted.

During the quarter the following work was completed:

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SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
June 21, 1900,	*Lily street, from Spruce to Atwells avenue.*
" " "	*Tefft street, from Atwells avenue to West Exchange street.*
" " "	*Elmgrove avenue, from Irving to Humboldt.*

TO GRADE.

Aug. 2, 1900, *Ralph street, from Laban to Eastwood avenue.*

TO GRADE AND REPAIR, WHEN ABUTTING OWNERS CURB AND PAVE GUTTERS.

No. of resolution.	Date of approval.	
119.	April 14, 1900,	*Olney street, from Morris avenue to Arlington.*

TO BUY AND SET STONE BOUNDS.

478.	Jan. 2, 1899,	*New boundary line between the city of Providence and the town of Johnston.*

The following work was in progress September 30, 1900, namely:

TO BUILD FOUNDATIONS, ETC.

No. of resolution.	Date of approval.	
264.	June 23, 1900,	"*Carrie Brown Memorial Fountain,*" *City Hall park.*

The following work, ordered by the board of aldermen and city council, had not commenced September 30, 1900, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
June 21, 1900,	*Berkshire street, from Admiral to June.*
Sept. 20, "	*Perkins street, from Pearl to A.*
" " "	*Pacific avenue, from Burrington street to Aquidneck.*
" " "	*Adelaide avenue, from Elmwood to Reservoir.*
" " "	*Calla street, from Broad to Eddy.*

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To Grade and Repair when Abutting Owners Curb and Pave Gutters.

Date of order.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

No. of resolution. Date of approval.

149. April 25, 1900, *Elmgrove avenue, east side, from President to Doyle, and west side, from President to Hazard.*

To Grade, when Union Railroad Company is Authorized to Extend its Rails.

455. Dec. 30, 1898, *Douglas avenue, from Chad Brown street to Admiral.*

To Remove Rails of Providence & Worcester Railroad Company, et al.

323. Sept. 12, 1899, *Canal street, Market square and South Water street.*

Bills approved on account of highways from July 1 to September 30, 1900, inclusive, amounted to:

Regular appropriation	$64,044 30	
Special appropriation	5,046 16	
Special credit appropriation	695 62	
		$69,786 08

Classified as follows:

Cleaning streets	$18,598 76
Repairs on unpaved streets	18,365 33
Crushed stone — material and labor	8,299 80
Repairs on paved streets	4,889 28
Barn expenses	2,078 19
Blacksmith and wheelwright shop	2,061 51
Repairs on stone crushers	1,669 65
Stone — paving and crosswalk	1,095 38
Tools, implements, etc	912 35
Steam rollers — repairs and supplies	737 95
Labor on material	450 99
Amount carried forward	$59,159 19

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Amount brought forward	$59,159 19	
Salary, superintendent	442 00	
Building driveways, etc	407 38	
Watering streets	262 51	
Horses, wagons, harnesses, etc	217 88	
Watchman at city yard	156 00	
Sundries	89 80	
Repairs on buildings, highway yard	78 04	
Office expenses, city yard	27 84	
Fencing streets — material and labor	14 40	
		$60,855 04

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Bancroft street, from Sterling avenue to Kelly street	$32 55	
Elmgrove avenue, from Irving to Humboldt	1,799 06	
Lily street, from Spruce to Atwells avenue	687 18	
Sterling avenue, from Webster to Bancroft street	41 70	
Tefft street, from Atwells avenue to West Exchange street	2,559 92	
Trenton street, from Ives to Gano	688 22	
Union avenue, from present end of curbing to Webster avenue	111 07	
		5,919 70

Grade and Repair.

Olney street, from Morris avenue to Arlington	3,003 94

To Rebuild.

Mill street bridge	7 40
	$69,786 08

Bills deposited with the city treasurer for collection from July 1 to September 30, 1900, inclusive, amounted to . . . $13,876 71

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As follows:

Labor and material	$7,297 30
Union Railroad Company for granite blocks, etc.	4,862 42
Use of water cart	533 49
Blacksmith and harness work for other departments	478 84
Boarding horses for other departments	406 06
Street sweepings	206 00
Manure from barn	76 00
Removing trees	10 00
Old oil barrels	6 60
	$13,876 71

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $13,295 61

As follows:

Labor and material	$6,901 94
Union Railroad Company for granite blocks, etc.	4,862 42
Blacksmith and harness work for other departments	478 84
Boarding horses for other departments	406 06
Use of water cart	308 50
Street sweepings	166 00
Use of steam roller	79 25
Manure from barn	76 00
Removing trees	10 00
Old oil barrels	6 60
	$13,295 61

Bills approved on account of highways for the fiscal year ending September 30, 1900, inclusive, amounted to:

Regular appropriation	$271,487 10	
Special appropriation	18,903 42	
Special credit appropriation	12,848 10	
		$303,238 62

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Classified as follows:

Cleaning streets	$61,599 15	
Repairs on unpaved streets	60,608 02	
Crushed stone — material and labor	43,011 27	
Repairs on paved streets	15,751 09	
Blacksmith and wheelwright shop	10,643 34	
Barn expenses	10,276 90	
Stone — paving and crosswalk	8,730 66	
Steam rollers — repairs and supplies	4,382 38	
Repairs on stone crushers	3,967 83	
Tools, implements, etc	4,378 47	
Labor on material	2,396 39	
Removing snow and ice	2,197 42	
Horses, wagons, harnesses, etc	1,962 04	
Salary, superintendent	1,768 00	
Building driveways, etc	1,444 41	
Watchman at city yard	624 00	
Watering streets	482 67	
Sundries	461 42	
Office expenses, city yard	335 81	
Repairs on buildings, highway yard	215 22	
Fencing streets, material and labor	86 38	
		$235,322 87

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved,

Babbitt street, from Black to Quaid	$254 58	
Bancroft street, from Sterling avenue to Kelly street	1,499 59	
Black street, from Orms to Chalkstone avenue	1,139 33	
Columbia avenue, from Broad street to Roger Williams park	4,164 39	
Commodore street, from Branch avenue to Silver Spring street	4,946 46	
Doyle avenue, from Morris to Elmgrove	2,441 22	
Elmgrove avenue, from Irving to Humboldt	1,799 06	
Foster street, from Broad to Pine	1,214 89	
Hayward street, from present end of curb northerly to Lockwood	129 21	
Huntington avenue, from Carter street to Jackson avenue	675 66	
Irving avenue, from Taber to Blackstone boulevard	5,349 23	
Irving street, from Emerson to Broad	1,231 85	
Lily street, from Spruce to Atwells avenue	687 18	
Amounts carried forward	$25,532 65	$235,322 87

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Amounts brought forward	$25,532 65	$235,322 87
Pleasant street, from Ivy to East avenue	1,946 42	
Sterling avenue, from Webster to Bancroft street	1,798 64	
Tefft street, from Atwells avenue to West Exchange street	2,559 92	
Trenton street, from Ives to Gano	1,711 92	
Union avenue, from present end of curb to Webster	3,984 11	
Waldo street, from Cranston to Sorrento	1,198 46	
Waldo street, from Salem to Dexter	1,108 13	
Webster avenue, from present end of curb to Cranston line	4,968 51	
West Park street, from Holden to Senter	909 14	
		45,717 90

PAVE WITH GRANITE BLOCKS.

Canal and Mill streets	$1,989 62	
Charles street, from Lock to Randall square	10,361 70	
Promenade street, from present end of pavement near railroad bridge to Steeple	1,413 80	
		13,765 12

PAVE WITH ASPHALT.

Mathewson street, from Westminster to Weybosset.	$46 54	
The two approaches to the proposed depot in Exchange place	45 60	
		92 14

PUT IN GOOD CONDITION.

Anthony avenue, from Cranston street to its westerly termination	$227 50	
Dorrance street, from Dyer to its southerly termination	179 45	
Irving avenue, from Grotto to its easterly termination	2,259 63	
		2,666 58

GRADE AND REPAIR.

Olney street, from Morris avenue to Arlington		3,003 94

TO REBUILD.

Mill street bridge		2,670 07
		$303,238 62

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SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from July 1 to September 30, 1900, inclusive, amounted to . . . $1,586 63

Charged as follows:

Concreting sidewalks	$932 21	
Repairing sidewalks and gutters	462 77	
Granite curbing	191 65	
	$1,586 63	

Curbing bills deposited with the city treasurer for collection from July 1 to September 30, 1900, inclusive, amounted to . $994 60

During the quarter coupons from curbing bills collected have been returned by the city treasurer and receipted for to the amount of $1,509 74

Bills approved on account of sidewalks and curbing for the fiscal year ending September 30, 1900, inclusive, amounted to . $17,654 39

Charged as follows:

Granite curbing	$11,101 65
Concreting sidewalks	5,721 02
Repairing sidewalks and gutters	831 72
	$17,654 39

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CITY ENGINEER.

Bills approved on account of the city engineer's department from July 1 to September 30, 1900, inclusive, amounted to . $12,355 47

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,745 88
Salaries of clerks	729 75
Car fares	409 05
Supplies — drawing material, etc	293 99
Instruments and repairs	18 75
Meteorological instruments and repairs	14 00
Telephone lines	10 00
Sundries	9 05
	$12,355 47

Bills approved on account of the city engineer's department for the fiscal year ending September 30, 1900, inclusive, amounted to $49,648 75

Charged as follows:

Salary — city engineer	$4,500 00
Salaries of assistants	39,760 29
Salaries of clerks	3,099 00
Supplies — drawing material, etc	1,172 73
Car fares	1,023 40
Sundries	43 07
Instruments and repairs	23 70
Meteorological instruments and repairs	14 00
Telephone lines	10 00
Carriage hire	2 56
	$49,648 75

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BRIDGES.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
158.	April 20, 1897,	*Weybosset bridge and river walls.*
187.	May 20, 1898,	*Weybosset bridge extension.*
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*

August 25th, the proposal of Wm. M. Harris, Jr., to furnish and deliver 56,000 ft. B. M. yellow pine lumber for the sum of $30 per M. ft. was accepted. Amount, $1,680.

Bills approved on account of bridges, from July 1 to September 30, 1900, inclusive, amounted to $7,129 79

Charged as follows:

Acorn street bridge	$2 18
Atwells avenue bridge	31 08
Barn expenses	74 71
Building at city yard	42
Burnside bridge	304 78
Charles street bridge	10 50
Crawford street bridge	117 53
Exchange bridge	641 38
Francis street bridge	467 06
Horses, wagons, harnesses, etc	45 81
Lumber, hardware, etc	755 03
Manton avenue bridge	6 10
Mill street bridge	107 00
Park street bridge	1 10
Point street bridge	1,023 30
Promenade street bridge	107 37
Randall street bridge	13 50
Red bridge	378 17
Rent of keeper's house, Washington bridge	30 00
Salaries — Point street bridge	1,029 00
Salaries — Red bridge	590 19
Amount carried forward	$5,736 21

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Amount brought forward	$5,736 21	
Salaries — Washington bridge	556 58	
Smithfield avenue bridge	117 55	
Sundries	116 58	
Telephone lines	10 00	
Tools	117 28	
Veazie street bridge	6 85	
Washington bridge	404 85	
Weybosset bridge	63 89	
	$7,129 79	

Bills deposited with the city treasurer for collection from July 1 to September 30, 1900, inclusive, for repairs to Crawford street bridge, amounted to . . . $28 00

During the quarter, coupons from bills collected (for repairs on Crawford street bridge) have been returned by the city treasurer and receipted for to the amount of $28 00

Bills approved on account of bridges for the fiscal year ending September 30, 1900, inclusive, amounted to $23,654 41

Charged as follows:

Acorn street bridge	$106 03
Atwells avenue bridge	85 13
Barn expenses	391 31
Building at city yard	14 33
Burnside bridge	304 78
Cemetery street bridge	208 20
Charles street bridge	10 50
Crawford street bridge	271 77
Delaine street bridge	21 54
Eagle street bridge	298 53
Exchange bridge	711 68
Francis street bridge	498 72
Gaspee street bridge	108 72
Amount carried forward	$3,031 24

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Amount brought forward	$3,031 24
Horses, wagons, harnesses, etc.	144 11
Lumber, hardware, etc.	1,589 26
Manton avenue bridge	91 54
Mill street bridge	186 15
Nash lane bridge	20 30
Park street bridge	10 09
Point street bridge	3,260 76
Promenade street bridge	224 38
Randall street bridge	20 60
Red bridge	3,447 96
Rent of keeper's house, Washington bridge	120 00
Salaries — Point street bridge	3,989 75
Salaries — Red bridge	2,151 69
Salaries — Washington bridge	2,038 26
Smithfield avenue bridge	130 39
Sundries	723 14
Telephone lines	10 00
Tools	600 33
Valley street bridge — north span	42
Valley street bridge — south span	22 95
Veazie street bridge	10 23
Wanskuck bridge	6 22
Washington bridge	1,689 27
Washington row bridge	12 24
Weybosset bridge	91 38
Whelden street bridge	31 75
	$23,654 41

Bills approved for account of Weybosset bridge and river walls appropriation have been paid and charged as follows:

From July 1 to September 30, 1900, inclusive:

Exchange place and extension of Exchange street — to build	$230 00

For the fiscal year ending September 30, 1900, inclusive:

River walls between Burnside and Promenade street bridges — to build	$12,048 56
Exchange place and extension of Exchange street — to build	11,115 54
Mill street bridge — to rebuild	5,971 37
Weybosset bridge and river walls — to rebuild	312 35
	$29,447 82

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PUBLIC LIGHTS.

Bills approved on account of the public lights from July 1 to September 30, 1900, inclusive, amounted to $71,600 93

Charged as follows:

Arc lights	$55,889 95
Gasolene lights	9,196 89
Gas for street lights	3,601 29
Automatic gas lighting	1,701 38
Incandescent lights	510 72
Salaries	459 00
Barn expenses	75 53
Setting and removing gas posts	67 37
Horses, wagons, harnesses, etc	50 17
Supplies for repairing posts and lanterns	46 64
Tools	1 69
Office furniture and supplies	30
	$71,600 93

Bills deposited with the city treasurer for collection from July 1 to September 30, 1900, inclusive, amounted to $23 06

As follows:

Gas posts, lanterns, etc	$13 81
Removing gas posts	9 25
	$23 06

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $25 25

As follows:

Desk and chairs	$10 00
Removing gas posts	9 25
Gas posts, lanterns, etc	6 00
	$25 25

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Bills approved on account of public lights for the fiscal year ending September 30, 1900, inclusive, amounted to . . . $145,560 45

Charged as follows:

Arc lights	$114,618 80
Gasolene lights	18,390 37
Gas for street lights	6,862 59
Automatic gas lighting	3,361 24
Incandescent lights	1,020 72
Salaries	816 00
Barn expenses	188 05
Setting and removing gas posts	122 13
Supplies for repairing posts and lanterns	100 22
Horses, wagons, harnesses, etc.	76 22
Office furniture and supplies	2 42
Tools	1 69
	$145,560 45

CONTINGENCIES.

Bills approved for the inspection of electric wires from July 1 to September 30, 1900, inclusive, have been paid from the appropriation for contingencies to the amount of $15 47

Bills approved for the inspection of electric wires for the fiscal year ending Sep[illegible] ber 30, 1900, inclusive, have been paid [illegible] the appropriation for contingencies [illegible] amount of . . . [illegible] 67

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PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from July 1 to September 30, 1900, inclusive, amounted to . . . $5,147 03

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,041 63
Office supplies	170 40
Telephone lines	10 00
	$5,147 03

Bills approved on account of the public works office for the fiscal year ending September 30, 1900, inclusive, amounted to . $20,724 40

Charged as follows:

Salaries of commissioner and secretary	$7,700 00
Salaries of office assistants	12,294 88
Office supplies	719 52
Telephone lines	10 00
	$20,724 40

ROBERT E. SMITH,

Commissioner.

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ASTOR, LENOX AND TILDEN FOUNDATIONS

SEVENTY-SECOND

QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING DECEMBER 31, 1899.

The Providence Press:
Printed by E. Farnham, City Printer,
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1900.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., January 1, 1901.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-second quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending December 31, 1900:

WATER WORKS.

December 10th, the proposal of Congdon & Carpenter Company to furnish and deliver 2,000 pounds pig lead, and the proposal of the Thomas Phillips Company to furnish and deliver 5,000 pounds $\frac{5}{8}$-inch lead pipe, was accepted.

December 10th, the proposal of Builders Iron Foundry to furnish special castings for the water and sewer departments during the year 1901, was accepted and a contract subsequently executed.

December 13th, the proposal of Warren Foundry and Machine Company, of Phillipsburg, N. J., to furnish and deliver about 536 tons of cast iron water pipe, from 4 inches to 8 inches in diameter, for the sum of $24.30 per ton of 2,240 pounds, was accepted and a contract subsequently executed.

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December 14th, the offer of John W. Lyon to furnish and deliver taps and stops, various sizes, was accepted. Amount, $1,248.45.

December 14th, the offer of Coffin Valve Company to furnish and deliver water gates of various sizes, and twenty flush hydrants with gates, boxes and covers, complete, was accepted. Amount, $4,668.75.

December 29th, the proposal of Pomroy Coal Company, to furnish the teams required for teaming at the city pipe yard during the year 1901, was accepted.

The average daily consumption of water during the last quarter was 9,831,047 gallons, and the average daily consumption for the year 1900 was 10,131,489 gallons.

Water pipes were laid during the quarter as follows.

8-INCH.

In Cypress and Nichols streets and Morris avenue; and in Pawtuxet avenue in town of Cranston	876.85 feet.

6-INCH.

In Baxter, Brearly, Crescent, Culver, Cumerford, Dover, Dudley, Ontario, Pitman, Roosevelt and Suffolk streets; Hazard, Lincoln, Reynolds, Upton and Wisdom avenues and Winchester place; and in Garden, Pond and Station streets; Bay View, Germania and Wheeler avenues in town of Cranston; and in Hedley avenue in town of Johnston	11,483.65 feet.
Total	12,360.50 feet.

or, 2.341 + miles.

Water pipes were removed during the quarter as follows:

8-INCH.

From Ernest street	220.55 feet.

or, .041 + mile.

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Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	96,104.74 feet.
10-inch	15,057.14 feet.
8-inch	271,569.40 feet.
6-inch	1,169,936.46 feet.
Total	1,711,549.87 feet.

or, 324.157 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Ten fire hydrants have been set during the quarter, one in each of the following locations:

Crescent street, north side, 2.5 feet west of west building line of Sibley street.

Cypress street, north side, 280 feet east of gate on east building line of Morris avenue.

Dudley street, north side, 303 feet east of Plain street.

Hedley avenue, Johnston, northeast side, 171 feet west of gate on west building line of Merino avenue.

Hedley avenue, Johnston, northeast side, 245 feet west of gate on west building line of Elm street.

Hedley avenue, Johnston, east side, 240 feet south of gate on west building line of Elm street.

Laurel Hill avenue, Cranston, east side, southeast corner of Argyle street.

Lincoln avenue, north side, 462 feet west of west building line of Blackstone Boulevard.

Ontario street, north side, 236.5 feet west of gate at Broad street.

Winchester place, north side, 206 feet east of east building line of Elmwood avenue.

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The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred and eighty-six — eighteen hundred flush, and eighty-six post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter, two hundred and eighty-nine water meters were set, of which number one hundred and six were to replace other meters.

The use of four meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,640	538	127	15	6	.....	.....	.....	3,326
Ball & Fitts, rotary	.....	.....	6	11	.....	2	1	.....	20
Crown	8,437	894	270	123	31	21	17	.....	9,793
Empire	447	71	42	34	8	.....	1	.....	603
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	10	23	11	2	46
Thomson	3,379	422	76	54	22	7	7	2	3,969
Trident	52	.....	.....	.....	.....	.....	.....	.....	52
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	14,956	1,926	522	237	78	53	37	4	17,813

Three plumbers' licenses were issued during the quarter, making the total number one hundred and twenty-five, all of which expired December 31, 1900.

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Eight hundred permits to do plumbing work were issued during the quarter.

One hundred and seventy-four applications for water were made during the quarter, making the total number, December 31, 1900, twenty-four thousand one hundred and eighty-two.

The number of new service stops opened during the quarter was one hundred and seventy-five.

The total number of service stops opened to December 31, 1900, inclusive, was twenty-three thousand five hundred and two. The number in actual use December 31, 1900, was twenty-one thousand five hundred and sixty-six.

The following is a list of drinking troughs supplied with water by the Providence Water Works, viz.:

Academy avenue, north of Chalkstone.
Angell street, junction of South Angell.
Atwells avenue, junction of Harris.
Bassett street, off Hospital.
Branch avenue and Abbott street.
Broad street, junction of Eddy.
Broadway, junction of Westminster street.
Canal street, near Linard.
Charles street, corner of Ormsbee avenue.
Charles street and Branch avenue.
Chalkstone avenue, junction of Manton.
Dexter street, near Durfee.
Dorrance street, near Exchange place.
Douglas avenue and Chalkstone.
Douglas avenue and Admiral street.
Dyer street, near Crawford street bridge.
Dyer street, junction of Eddy.
Elmwood avenue and Public street.
Federal street, junction of Kenyon.
Fountain street, junction of Carpenter.
Hartford avenue, junction of Killingly street.
Manton avenue, junction of Atwells.
Miller avenue (Roger Williams park).
North Main street, junction of Benefit.
Olneyville square.
Plainfield street, junction of Pocasset avenue.

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Prairie avenue, junction of Broad street.
Point street, junction of Friendship.
Point street, near the bridge.
Potters avenue, corner of Cranston street.
Randall square.
Reservoir avenue, junction of Pontiac street.
Rochambeau avenue, east of Blackstone boulevard.
Smith street, junction of Chalkstone avenue.
South Main street, junction of Wickenden.
Thayer street, junction of Hope.
Trinity square.
Waterman street, corner of East River.
Westminster street, junction of Cranston.
Weybosset street, near Mathewson.
Wickenden street, corner of Governor.

TOWN OF CRANSTON.

Cranston street, junction of Phenix road.
Park avenue, corner of Doric.

TOWN OF JOHNSTON.

Manton avenue, near Killey.

The following is a list of street sprinklers ready for use on the Providence Water Works, viz.:

Aborn street, near junction of Atwells avenue.
America street, near Atwells avenue.
Barton street, corner of Broadway.
Bradford street, near Broadway.
Branch avenue, near junction of North Main street.
Benefit street, foot of Angell.
Benefit street, between North Main and Halsey.
Beacon avenue, near Friendship street.
Broad street, near Gallup.
Broadway, north side, west of Harris avenue.
Camp street, between Cypress and Larch.
Codding street, near Westminster.
Cranston street, east side of railroad bridge.
Crary street, between Eddy and Hospital.
Cromwell street, near Dexter.
Daniel avenue, near Plainfield street.
Dexter street, opposite Division.
Doyle avenue, near Hope street.
Doyle avenue, near North Main street.
Exchange place, west end.
Ford street, west of Cranston.
Garnet street, near Pine.

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Governor street, near Waterman.
Greenwich street, corner Elmwood avenue.
Harris avenue, near Atwells.
Hope street, junction of Thayer.
Hope street, corner of Wickenden.
John street, corner of Benefit.
Knight street, corner of Grove.
Laurel Hill avenue, near Plainfield street.
Linden street, near Broad.
Manning street, near Brook.
Medway street, east of Wayland avenue.
Melrose street, near south corner of burying ground.
Moore street, corner of Broad.
North Main street, corner of Thomas.
North Main street, near Mill.
Olive street, east of Prospect.
Olney street, near Camp.
Orms street, near Ormsbee avenue.
Oxford street, corner of Eddy.
Pocasset avenue, near Plainfield street.
Power street, west of Hope.
Promenade street, west of Gaspee.
Promenade street, west of Holden.
Promenade street, west of Steeple.
Prospect street, corner of Bowen.
Public street, about 200 feet east of Temple.
Reservoir avenue, opposite Atlantic.
Roger Williams park, near Broad street (private).
Salem street, between Potters avenue and Benedict street.
Smith street, near Oakland avenue.
Smith street, near Schaffer.
Smithfield avenue, north of Branch.
Smithfield avenue, north of the Moshassuck river.
Smithfield avenue, north of the railroad bridge.
Transit street, between South Water and South Main.
Washington street, corner of Dean.
West Friendship street, near Broad.
Weybosset street, opposite Abbot Park place.
Willard avenue, west of Prairie.
Willow street, west of Messer.
Winter street, near Pond.

The following is a list of drinking fountains, namely:

Atwells avenue, corner of Academy.
Benefit street, corner of College.
Canal street, corner of Steeple.
Candace street, corner of Orms.
Cranston street, junction of Westminster.
Dexter street, opposite Division.

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Dorrance street, near Exchange place.
Dyer street, corner of Crawford.
Friendship street, at Hayward park.
Jackson street, corner of Westminster.
North Main street, near Mill.
Olneyville square.
Prairie avenue, opposite Comstock.
Point street, corner of Eddy.
Potters avenue, corner of Elmwood.
Randall square.
Roger Williams park, near Betsey Williams cottage.
Roger Williams park, near Elmwood avenue.
Roger Williams park, near the menagerie.
Ship street, corner of Dyer.
Tockwotton park.
Westminster street, corner of Dyer.
Wickenden street, corner of Transit.

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The following table shows the lengths, sizes, etc., of services laid during twenty-four years, ending December 31, 1900:

YEARS.	Length of Services in Feet.									Taps Used.						Stops Used.						Service boxes Used.
	Sizes of Pipe.						Totals.	Trenching.	Paving.													
	½ inch.	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.				⅜ in.	½ in.	⅝ in.	¾ in.	1 in.	To-tal.	⅜ in.	½ in.	⅝ in.	¾ in.	1 in.	To-tals.	
To Dec. 31, 1899.....	9,919.9	204,483.38	19,728.79	4,431.8	3,362.	457.7	242,383.57	255,099.79	31,064.78	612	12,356	1,505	385	305	15,163	645	13,170	1,240	279	267	15,601	16,053
1900.....	.....	8,419.10	649.10	142.8	85.6	.....	9,296.60	9,736.50	1,215.	....	474	53	12	14	553	...	510	44	9	9	572	590
	9,919.9	212,902.48	20,377.89	4,574.6	3,447.6	457.7	251,680.17	264,836.29	32,279.78	612	12,830	1,558	397	319	15,716	645	13,680	1,284	288	276	16,173	16,643

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The following table shows the lengths, sizes, etc., of services laid during the year ending December, 31, 1900:

Months.	Lengths of Services in Feet.								Taps Used.					Stops Used.					Service boxes used.
	Sizes of Pipe.					Totals.	Trenching.	Paving.											
	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.				½ in.	⅝ in.	¾ in.	1 in.	Totals	½ in.	⅝ in.	¾ in.	1 in.	Totals	
January	158.5	22.2	.....	.....	.....	180.7	189.5	69.	10	1	....	....	11	11	1	....	....	12	12
February	36.6	.....	.....	.....	.....	36.6	39.	3.	3	....	....	....	3	3	....	....	....	3	3
March	671.6	26.2	.....	.....	.....	697.8	730.	53.5	35	1	....	....	36	39	1	....	....	40	40
April	1,042.4	34.4	.....	.....	.....	1,076.8	1,112.	117.5	54	3	....	2	59	58	2	....	....	60	63
May	900.2	46.8	25.4	.....	.....	972.4	1,002.	148.	48	5	3	....	56	53	4	2	....	59	61
June	667.5	92.4	36.4	.....	.....	796.3	832.	112.	35	8	3	1	47	39	7	2	....	48	51
July	633.8	36.6	20.2	16.4	.....	707.	747.	104.	41	3	1	3	48	44	3	1	2	50	51
August	1,084.8	167.4	16.4	.....	.....	1,268.6	1,327.	163.	57	8	2	1	68	60	7	2	1	70	72
September	751.	57.4	.....	8.2	.....	816.6	864.	118.	48	7	1	1	57	50	7	...	1	58	59
October	1,008.2	34.4	36.2	.....	.....	1,078.8	1,133.	118.	62	5	1	1	69	66	3	1	....	70	73
November	922.5	59.	.....	16.4	.....	997.9	1,061.5	90.5	49	6	....	2	57	51	5	....	2	58	59
December	542.	72.3	8.2	44.6	.....	667.1	699.5	118.5	32	6	1	3	42	36	4	1	3	44	46
Totals	8,419.1	649.1	142.8	85.6	.....	9,296.6	9,736.5	1,215.	474	53	12	14	553	510	44	9	9	572	590

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Changes in size and location of services in 1900:

Taps and Stops.										Sizes and Lengths of Lead Pipe.										Trenching.	Paving.	Change in size only.	Change in location only.	Change in both size and location.	Change in length.
Taken Out.					Inserted.					Taken Out.					Inserted.										
3/8 inch.	1/2 inch.	5/8 inch.	3/4 inch.	1 inch.	3/8 inch.	1/2 inch.	5/8 inch.	3/4 inch.	1 inch.	1/2 inch.	5/8 inch.	3/4 inch.	1 inch.	1 1/2 inch.	5/8 inch.	3/4 inch.	1 inch.	1 1/4 inch.	1 1/2 inch.						
23	32	4	.....	1	.....	24	6	7	5	386.8	476.7	115.2	.....	31.2	327.6	85.1	95.4	104.6	.....	1,172	460.5	26	6	10	51

18 services have been removed.
During the year, 106 taps were reported obstructed and were dug up and examined; 99 were cleaned; 7 were found unobstructed.
21 private taps were inserted.

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The following table exhibits the number of service stops opened each month from the commencement to December 31, 1900:

Months.	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
January	....	54	33	21	34	55	15	49	9	20	7	17	15	21	17	18	26	7	39	36	39	56	40	29	30	27	30	40	18	24
February	....	47	18	18	7	25	23	18	9	19	3	11	9	10	7	15	7	10	21	25	26	23	24	28	8	28	24	21	7	15
March	....	38	34	63	7	45	32	60	19	46	23	39	11	28	9	24	16	14	19	28	24	28	36	40	27	20	42	46	28	30
April	....	109	109	108	32	108	82	78	52	58	55	49	55	62	48	68	60	38	61	53	73	76	71	76	67	100	70	53	69	47
May	....	224	206	147	162	168	136	95	80	84	66	72	78	62	62	61	70	52	74	66	114	83	91	81	79	98	82	51	73	60
June	....	329	295	151	172	148	114	103	71	109	82	48	64	81	81	59	50	86	59	80	83	103	106	105	100	76	86	61	73	60
July	....	333	261	127	141	158	83	80	49	75	56	77	66	76	77	83	62	89	74	67	85	105	93	80	89	83	59	51	66	44
August	....	224	209	123	83	94	91	51	51	39	58	87	69	61	57	71	49	52	56	76	95	104	115	116	83	64	69	54	80	66
September	....	184	147	139	101	94	80	63	44	37	60	67	93	50	70	59	74	63	64	77	93	114	88	112	70	71	67	53	53	76
October	....	138	135	160	92	84	81	78	79	48	61	56	47	65	62	52	80	70	64	54	104	102	96	85	90	70	62	47	54	65
November	....	100	104	185	86	54	73	57	63	54	37	64	49	51	39	57	69	47	58	72	81	118	80	70	68	52	54	42	45	54
December	56	83	45	122	60	35	55	45	47	29	40	27	56	44	46	28	49	42	53	50	83	102	62	62	57	58	53	47	40	56
Totals	56	1,863	1,506	1,364	977	1,068	865	777	573	618	548	614	612	611	575	595	612	570	642	684	900	1,014	902	884	768	747	698	566	606	597

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The receipts for water each year since the commencement have been as follows:

Year.	Amount.	Year.	Amount.
1872	$41,003 51	1887	$339,513 60
1873	97,386 09	1888	346,731 58
1874	132,052 39	1889	377,497 97
1875	165,144 71	1890	401,140 86
1876	183,868 73	1891	404,553 84
1877	200,039 39	1892	409,421 21
1878	218,883 33	1893	427,546 51
1879	229,551 78	1894	432,383 97
1880	247,705 06	1895	471,069 97
1881	260,530 87	1896	485,187 33
1882	269,318 77	1897	490,652 47
1883	283,632 89	1898	502,603 10
1884	302,368 36	1899	522,124 46
1885	313,561 21	1900	554,949 62
1886	323,084 67		

The amount of bills approved on account of water works from October 1 to December 31, 1900, inclusive, was $35,892 11.

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$3,375 43
Sundries	695 05
Engineers	525 33
Firemen	455 90
Superintendence	299 00
Repairs on boilers	255 89
Care of grounds	117 98
Oil, waste and packing	109 21
Worthington high-duty pumping engine	103 25
Labor on fuel	59 85
Amount carried forward	$5,996 89

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Amount brought forward	$5,996 89	
Barn expenses	49 70	
Real estate	41 90	
Cornish engine house	38 01	
Lights	4 62	
Cornish pumping engine	75	
		$6,131 87

SOCKANOSSET RESERVOIR.

Watchman	$180 00	
Sundries	57 75	
		237 75

HOPE PUMPING STATION.

Firemen	$398 30	
Engineers	299 00	
Sundries	231 96	
Lights	85 26	
Coal and wood	12 00	
Holly pumping engine	6 41	
Repairs on boilers	3 99	
		1,036 92

HOPE RESERVOIR.

Watchman	$204 75	
Sundries	2 76	
		207 51

FRUIT HILL RESERVOIR.

Sundries	$732 01	
Watchman	202 50	
		934 51

PIPE LINE AND SERVICE STOPS.

Repairs	$3,280 50	
Superintendence — salaries	848 25	
		4,128 75

METER DEPARTMENT.

Water meters	$5,190 89	
Setting and repairing meters	1,372 06	
		6,562 95
Amount carried forward		$19,240 26

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Amount brought forward		$19,240 26

PIPE YARD.

Laying water pipe	$2,961 46	
Laying service pipe	1,023 88	
Service pipe	673 05	
Special castings	581 68	
Wharf salaries	214 50	
Pig lead and tin	188 47	
Labor on and carting pipe	147 60	
Tools	98 63	
Pipe yard, office expenses	64 88	
Fire hydrants, boxes and covers	54 60	
Patterns for special castings	52 55	
Cast iron water pipe	17 41	
Repairs on pipe yard buildings	10 00	
Stop valves	1 26	
		6,089 97

MISCELLANEOUS.

Town of Cranston, tax	$7,077 69	
Clerks' and inspectors' salaries	1,521 32	
Barn expenses	622 42	
Prevention of defilement of the Pawtuxet	549 99	
Town of North Providence, tax	400 00	
Horses, wagons, harnesses, etc	118 20	
Analyses of water	90 00	
Real estate at Pawtuxet	54 00	
Public drinking fountains and troughs	50 71	
Sundries	50 05	
Town of Lincoln, tax	27 50	
		10,561 88
		$35,892 11

The amount of expenditures from October 1 to December 31, 1900, inclusive, was $35,892 11

The total expenditures to December 31, 1900, inclusive, were $9,031,442 12

The *net* expenditure for construction and extension to December 31, 1900, inclusive, was	$6,470,093 35
The *net* expenditure for maintenance from October 1 to December 31, 1900, inclusive, was	$28,136 62
The *net* expenditure for maintenance to December 31, 1900, inclusive, was	$1,621,891 79

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The value of the water works system, January 1, 1900, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	138,032 80	
Sockanosset, Hope and Fruit Hill reservoirs	736,596 42	
Main lines and distribution pipes	2,730,451 99	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	32,034 63	
		$3,993,784 84

Bills deposited with the city treasurer for collection from October 1 to December 31, 1900, inclusive, amounted to . . $66,579 14

As follows:

Water	$59,037 72
Water meters	4,874 50
Setting and repairing meters	1,792 86
Labor and material, laying services, etc	587 52
Rent of real estate	105 50
Repairs on pipe line	82 09
Permanently closing service stops	60 00
Penalties	38 00
Old iron	95
	$66,579 14

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $72,785 94

As follows:

Water	$64,951 21
Water meters	4,911 75
Setting and repairing meters	1,654 41
Repairs on pipe line	541 52
Labor and material, laying services, etc	520 30
Rent of real estate	96 75
Permanently closing service stops	60 00
Penalties	38 00
Use of tapping machine	12 00
	$72,785 94

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SEWERS.

During the quarter ending December 31, 1900, three hundred and fifty-two permits were issued to drain layers — two hundred and twenty-six for new work and one hundred and twenty-six for extension and repairs of drains.

Two drain layer's licenses were issued during the quarter, making the total number forty-two, all of which expired December 31, 1900.

October 23d, the offer of Builders Iron Foundry to furnish three chemical mixing machines for the sewage works at Field's Point, was accepted. Amount, $360.00 each.

December 11th, the proposal of Charles M. Kelly to furnish and deliver to the Department of Public Works, the natural and Portland cement required during the year 1901, was accepted.

December 17th, the proposal of W. A. H. Grant to furnish and deliver vitrified sewer pipes, branches, etc., was accepted, and a contract subsequently executed. Amount, $5,180.80.

December 17th, the offer of Charles M. Kelly to furnish and deliver eighty flagstones for sewer catch-basins, was accepted. Amount, $508.00.

December 21st, the proposal of Nelson A. Bennett, of Sterling, Conn., to furnish and deliver catch-basin chute stones, at $4.75 each, was accepted.

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SEWERS CONSTRUCTED TO DECEMBER 31, 1900, IN MILES.

ITEMS.	KIND.	Built previous to 1900.	Built during 1900.	Total to Dec. 31, 1900.
Under regular appropriation.....	Brick.	34.793	1.319	36.112
Under regular appropriation.....	Pipe.	116.034	4.007	120.041
Under improved sewerage appropriation.....	Brick and Pipe.	24.128	.142	24.270
Total miles of sewers..		174.955	5.468	180.423

During the year, 121 catch-basins, 60 extra inlets, and 281 manholes, have been built, making a total to December 31, 1900, of 4,279 catch-basins, 1,288 extra inlets, and 7,750 manholes.

October 18th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
388.	Oct. 5, 1900,	*Frontenac, University and Taber avenues,* . .	$4,424 10

November 13th, a contract for the construction of the following sewer was awarded and subsequently executed, namely:

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To G. R. & E. L. Newman.

No. of resolution.	Date of approval.		
440.	Nov. 13, 1900,	*Swiss street, from near Knight to Ridge,* . .	$655 45

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
122.	April 14, 1900,	*Dudley street, from Plain to Eddy,* .	Oct. 9, 1900.
147.	" 25, "	*Admiral and Berkshire streets,* . .	Nov. 23, 1900.
246.	June 11, "	*Durfee street, from near Hammond to Harrison,* . . .	Oct. 8, 1900.
274.	" 23, "	*Ellery street, from Wendell to Union avenue,* . . .	Oct. 1, 1900.
346.	Sept. 12, "	*Admiral street, from Douglas avenue to Berkshire street,* .	Nov. 14, 1900.
347.	" " "	*Pond street and an alleyway, from Fenner street to Winslow. (Storm sewer,)* .	Oct. 20, 1900.
348.	" " "	*East George street, from Governor to Ives,*	Oct. 18, 1900.
350.	" " "	*East Transit street, from Ives to tide water. (Storm sewer.)* .	Oct. 16, 1900.
351.	" " "	*Priscilla avenue, from Sterling to Union,* .	Nov. 10, 1900.
440.	Nov. 13, "	*Swiss street, from near Knight to Ridge,* .	Dec. 1, 1900.

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At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
349.	Sept. 12, 1900,	*Section 24, Moshassuck Division, Improved Sewerage System.*
349.	" " "	*Section 25, Moshassuck Division, Improved Sewerage System.*

Work upon the following lateral sewer was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
388.	Oct. 5, 1900,	*Frontenac, University and Taber avenues.*

Work upon the following sewer, completing the work ordered by the city council, had not commenced December 31, 1900, namely:

No. of resolution.	Date of approval.	
349.	Sept. 12, 1900,	*Section 26, Moshassuck Division, Improved Sewerage System.*

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SEWER MAINTENANCE DEPARTMENT.

The following table shows the work performed by the department cleaning sewers, basins, and drains, for the year 1900:

Months.	Old Work.									New Work.									Total deposit removed, cubic yards.
	Old Drains.			Sand-Catchers.		Open Ditches.				Sumps.		Sewers.				Catch-Basins.			
	Number.	Length in feet.	Deposit removed, cu. yards.	Number.	Deposit removed, cu. yards.	Number.	Length in feet.	Deposit removed, cu. yards.		Number.	Deposit removed, cu. yards.	Number.	Length in feet.	Deposit removed, cu. yards.	Dead ends.	No. times examined.	Number cleaned.	Deposit removed, cu. yards.	
January	....	.....	.....	....	.....	....	.....	.....		1	9.85	1	400	373.33	.....	1	700	378.30	761.48
February	....	.....	.....	....	.....	....	.....	.....		9	72.75	1	275	138.88	.....	1	358	409.52	621.15
March	....	.....	.....	....	.....	....	.....	.....		3	43.04	1	150	20.74	.....	1	920	1,200.81	1,264.59
April	....	.....	.....	8	14.50	....	.....	.....		4	24.	7	2,800	3.59	.....	1	1,177	1,138.58	1,180.67
May	....	.....	.....	....	.....	....	.....	.....		5	119.85	1	525	3.	.....	1	1,471	1,239.63	1,362.48
June	....	.....	.....	....	.....	....	.....	.....		14	86.27	17	6,800	8.30	25	1	1,609	1,280.28	1,374.85
July	....	.....	.....	8	13 55	....	.....	.....		6	45.91	27	10,600	10.79	25	1	1,501	883.70	953.95
August	....	.....	.....	....	.....	1	.....	27.78		11	95.84	66	16,400	77.60	33	2	1,717	1,301.12	1,502.34
September	3	.....	38.18	....	.....	1	.....	17.59		5	33.	89	20,000	36.15	41	1	1,459	1,003.23	1,125.15
October	....	.....	.....	8	15.60	....	.....	.....		5	43.49	60	14,200	17.04	.....	1	1,647	1,062.23	1,138.36
November	....	.....	.....	....	.....	1	200	14.		6	68.18	20	9,375	3.	.....	2	1,480	752.42	837.60
December	....	.....	.....	....	.....	2	700	25.92		8	50.64	53	11,380	21.78	25	1	949	635.78	734.12
Totals	3	.....	38.18	24	43.65	5	900	85.29		77	692.82	343	92,905	714.20	149	14	14,944	11,285.60	12,856.74

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In addition to the accompanying form, the following work has been performed by the sewer maintenance department for the year 1900:

Work on Sewers.

Examined all sewers for condition and deposit, and all gates, slots, and sumps fifty-three times. Repaired nine sewers, twenty-five holes over sewers, three tide-gates, seven manholes, six connections, one chute. Reset 204 manhole frames, replaced forty-nine, 156 covers, and seven track-grates. Pumped to clean sewer at gate-house, Field's point; graded and sodded at brick station. Put nineteen pans into manholes on eight-inch sewers, two gates in sewers, and two twelve-inch by six-inch branches in sewers. Flushed eighty summits to sewers.

Work on Basins.

Flushed 962 traps in basins and 747 chutes to basins. Reset forty-nine traps. Repaired thirteen basins, thirteen holes at basins, eight chutes, and sidewalks at ninety-nine basin-heads with gravel. Cleaned snow from 1,800 inlets. Replaced sixteen basin covers; examined all basins and chutes for concreting and repairs, and put frames and covers behind twenty extra inlets.

Old Work.

Built five chutes to old drains. Repaired four culverts, five holes over old drains, fourteen old drains, and one old ditch. Leveled nine dumps and set thirty bound-stones.

Miscellaneous Work.

Flushed 117 private drains, charged $266; flooded field at Brown University, $14.90; pumped out sixteen cellars, $46.77; thawed out one dirt pile, $6.75; filled four cisterns, $8.

For Union Railroad Company: Altered and rebuilt forty-one manholes, charged $309.40, and eighteen basins, $171.33; built one surface drain and two chutes $65.50, and four basins and chutes, $136.90; reset twenty-one manhole frames, $64.50; thawed out one street, $25.39; concreted at two chutes, $10.30; put in two track-grates, $35.25.

For Narragansett Electric Lighting Company: Reset six manhole frames, $6.38; altered twenty-one basin connections, $195.13, and five old drains, $23.55; rebuilt two manholes, $140.59.

For Providence Gas Company: Filled two gas tanks, $72.41.

For Providence Telephone Company: Altered three basin connections, $8.75; reset five manhole frames, $23.

For miscellaneous parties: F. E. Shaw — drove test-wells, $15; flushed three sewers, $34.40. W. N. Chadsey — altered one basin connection, $12. J. Deary — repaired two basin connections, $31.75. E. A. Smith — put in drain, $16.50. R. E. Smith — repaired one connection, $1.55. E. W. Ever-

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son — put in connection, $16.50. Brown & Sharpe Manufacturing Company — built two basins and one chute, $70.72; put in drain to sewer, $53.03. T. J. Hamilton — cleaned one old drain, $3.

For Water Maintenance Department: Cleaned, scraped and whitewashed walls at Hope station; connected two street sprinklers with sewers; pounded and seeded banks at Hope and Sockanosset reservoirs; removed ashes from Hope station six times, and repaired floor at same.

For Water Construction Department: Altered twelve basin connections and rebuilt two manholes.

For Mill Street Bridge: Built three chutes, cleaned the Moshassuck river at the bridge, and put in twenty-inch iron pipe to river through wall.

For Weybosset Bridge and River Walls: Connected fountain in Exchange place park with sewer.

For Improved Sewerage Department: Built three sumps and one by-pass to sewer. For Section 2 of same — put in eight gates, laid drains, etc., pumped and watched, and did miscellaneous work at precipitation tanks; carted machinery from depot to tanks and set up same.

For Sewer Construction Department: Built twenty-five chutes, nineteen basins, thirty-four feet of twelve-inch sewer, 162.5 feet of eight-inch sewer, and three manholes; also fifty feet of surface drain for sewer construction special.

The amount of bills approved on account of sewers from October 1 to December 31, 1900, inclusive, was as follows:

For Construction.

Regular appropriation	$32,351 65	
Improved sewerage appropriation	40,030 31	
		$72,381 96

Charged as follows:

Material	$6,376 63
Contract reservations	1,212 00
Testing cement	292 78
Additional catch-basins	245 37
Sundries	199 28
Tools	8 89
Sewer in Admiral and Berkshire streets	6,487 67
Sewer in Admiral street, from Douglas avenue to Berkshire street	4,650 07
Sewer in Alger and Pacific avenues	307 43
Sewer in Cemetery and Frost streets	1,217 94
Sewer in Charles and Printery streets	533 39
Amount carried forward	$21,531 45

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Amount brought forward	$21,531 45
Sewer in Dudley street, from Plain to Eddy	3,288 97
Sewer in Durfee street, from 78 feet southerly of Hammond to Harrison	333 14
Sewer in East George street, from Governor to Ives.	864 35
Sewer in East Transit street, from Ives to tide water	742 55
Sewer in Ellery street, from Wendell to Union avenue	842 96
Sewer in Frontenac, University and Taber avenues	2,129 02
Sewer in Ontario street, from Broad to Hamilton	837 68
Sewer in Pond street and an alley way from Fenner to Winslow	570 35
Sewer in Priscilla avenue, from Sterling to Union.	1,596 22
Sewer in Swiss street, from near Knight to Ridge	784 18
Sewer in Winchester place, from Melrose street to Elmwood avenue	836 55
Chemical and laboratory buildings — to erect	3,942 51
Machinery for sludge press house	5,176 16
Salaries of assistant engineers	996 50
Sewage precipitation tanks — to build	9,739 79
Sewage sludge filter presses	4,167 64
Sewer in Moshassuck Division, Section 24	1,390 77
Sewer in Moshassuck Division, Section 25	7,368 26
Sludge press house — to build	5,087 37
Sundries, improved sewerage system	155 54
	$72,381 96

For maintenance, ... $17,275 11

Classified as follows:

Cleaning basins and sewers	$4,146 90
Repairing basins and sewers	4,110 71
Cleaning and repairing old drains	1,126 66
Sundries	1,091 93
Inspection of connections	718 08
Tools	533 75
Barn expenses	447 92
Salary — superintendent	442 00
Horses, wagons, harnesses, etc	381 39
Use of water	300 00
Cleaning private connections	66 20
Repairs on gate houses	65 37
Office expenses	55 67
Repairs on buildings — sewer maintenance yard	8 85
Filling cisterns, etc	6 65
Amount carried forward	$13,502 08

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Amount brought forward	$13,502 08	

ERNEST STREET STATION.

Coal and wood	$1,000 49	
Engineers	813 15	
Cleaning screens	637 53	
Firemen	462 16	
Cleaning and repairing pumps	299 22	
Repairs on boilers	169 54	
Supplies	66 02	
Lights	48 78	
Care of grounds	48 72	
Repairs on engines	27 53	
Care of buildings	11 11	
Repairs on buildings	2 00	

SEWAGE PRECIPITATION TANKS.

Fuel	$95 40	
Supplies	91 38	
	$17,275 11	

The *net* expenditure for construction of sewers to December 31, 1900, inclusive, was	$6,824,865 34
The *net* expenditure for maintenance of sewers to December 31, 1900, inclusive, was	$737,989 19

Bills deposited with the city treasurer for collection from October 1 to December 31, 1900, inclusive, amounted to . . . $1,587 64

As follows:

Miscellaneous work	$916 13
Cleaning private connections	59 25
Filling cisterns, etc.	56 06
Old manhole frame and cover	3 50
Sewer material	512 02
Laying drains to curbstone	36 18
Testing cement	4 50
	$1,587 64

During the quarter coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . $1,617 85

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As follows:

Miscellaneous work	$993 05
Cleaning private connections	55 00
Filling cisterns, etc	6 65
Old manhole frame and cover	3 50
Sewer material	521 07
Laying drains to curbstone	36 18
Testing cement	2 40
	$1,617 85

HIGHWAYS.

Three permits to open streets were issued during the quarter.

October 19th, the offer of the Rhode Island Granite Works, of Westerly, R. I., to furnish and deliver 50,000 granite paving blocks, for the sum of $1.18 per square yard, was accepted.

December 3d, the proposal of Smith & Newell Granite Company to furnish and deliver from 25,000 to 30,000 granite paving blocks, for the sum of $1.25 per square yard, was accepted.

December 18th, the proposal of Crabtree & Havey, of North Sullivan, Me., to furnish and deliver 15,000 lineal feet straight granite curbing, for the sum of forty-six cents per foot, was accepted.

December 21st, the offer of Nelson A. Bennett, of Sterling, Conn., to furnish and deliver circular curbing, 10 feet radius, at $2.75 each, was accepted.

December 21st, the offer of James Beaton, of Coventry Centre, R. I., to furnish and deliver curb corners, 2 feet radius, at $1.90 each, was accepted.

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December 24th, the proposal of Waldo I. Getchell to excavate trench for curbing and gutters and fill same with sand, and grade sidewalks on Elmgrove avenue, was accepted. Amount, $1,034.20.

One thousand and seventy-three notices to build or repair sidewalks were served on the abutting owners during the year 1900. The work, including ninety-two brought over from the preceding year, was done as follows:

By the abutting owners	969
By the city, at the expense of the abutting owners	70
Time for doing work extended	22
Work not done	104

The length of received streets December 31, 1900, was 225.47 miles measured on street lines, and to street line intersection. But, as it is customary in street construction or street paving to complete the work to the curb line intersection, the lengths in the following tables are measured on those lines and sub-divided as follows:

Received streets	230.94 miles.
Streets curbed and built	153.16 miles.
Streets not curbed but the roadway macadamized or graveled	30.44 miles.
Streets paved	31.89 miles.
Streets received but not improved	15.45 miles.
Total	230.94 miles.

The actual area of street pavement is 699,175.8 square yards. If this is estimated to an average width of roadway of 30 feet, it would be equal to 39.72 lineal miles and is subdivided as follows:

Granite blocks	29.48 miles.
Cobble	4.74 miles.
Asphalt	4.61 miles.
Vulcanite	0.47 miles.
Brick	0.42 miles.

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In addition to the general patching necessary to maintain the streets in good repair, the following work has been done during the year ending December 31, 1900, namely:

New streets built	11,664 linear feet.
Curbing set	20,656 linear feet.
Streets rebuilt	14,650 linear feet.
Streets resurfaced	175,221 linear feet.
Streets graded	9,740 linear feet.
Block pavement laid	2,452 square yards.
Asphalt pavement	656.97 square yards.
Asphalt pavement relaid	1,617 square yards.
Cobble pavement relaid	2,784 square yards.
Block paving relaid	21,931 square yards.
Brick paving relaid	223 square yards.
Asphalt gutters and roadways built	187.19 square yards.
Concrete sidewalks laid	2,717.97 square yards.
Concrete sidewalks patched and top-dressed	2,129.85 square yards.
Crushed stone used	54,631 tons.
Screened gravel used	13,861 cubic yards.

Work has been performed for Union Railroad Company in adjusting the macadamized roadway to the new railroad tracks, aggregating 8,571 linear feet, in the following streets:

Bassett street, from Hospital to Elm.
Chalkstone avenue, from Academy to Winthrop.
Charles street, from Hogan, to first angle south of Branch avenue.
Charles street, at bridge over West river.
Eddy street, from Pavilion avenue to Broad street.
Elm street, from Bassett to Plain.
Plain street, from Elm to Potters avenue.

During the year, the following streets, aggregating 33.185 + miles, have been resurfaced, namely:

Admiral street, from Charles to Douglas avenue.
Amy street, from Ives to Gano.
Armington avenue, from Academy to Sears.
Armstrong avenue, from Brook street to East.
Arnold street, from Governor to East.
Ashburton street, from Chalkstone avenue to Charles street.
Atwells avenue, from Putnam street to Manton avenue.
Atwood street, from Plainfield to its southerly termination.
Balaklava street, from Douglas avenue to Pekin street.
Beaufort street, from Academy avenue to Mount Pleasant.
Bellevue avenue, from Cranston street to Dexter.
Benevolent street, from Benefit to Magee.

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Bergen street, from Regent avenue to Chalkstone.
Blackstone boulevard, from Irving avenue to city line.
Bowdoin street, from Appleton to Kossuth.
Branch avenue, from Langdon street to Opper.
Broad street, from Prairie avenue to Potters.
Burgess street, from Cranston to Westminster.
Burnside street, from Sayles to Thurbers avenue.
Burrill street, from Weybosset to Westminster.
Cabot street, from Meeting to Angell.
Calverly street, from Smith to Promenade.
Cambridge street, from Academy avenue to Sears.
Canton street, from Regent avenue to Chalkstone.
Capron street, from Chaffee to Julian.
Carleton street, from Yale avenue to Dover street.
Cemetery street, from North Main to Smithfield avenue.
Chalkstone avenue, from Academy to Winthrop.
Chalkstone avenue, from Manton to Stafford street.
Chalkstone avenue, from River to Harold street.
Charles street, from Admiral to Silver Spring.
Charles Field street, from Hope to Brown.
Chester avenue, from Prairie to Taylor street.
Cole avenue, from Cypress street to Rochambeau avenue.
Covell street, from Amherst to Atwells avenue.
Cromwell street, from Elmwood avenue to Dexter street.
Dawson street, from Courtland to Marshall.
Deborah street, from Plainfield to Dorchester.
Delaine street, from Appleton to Valley.
Dewey street, from Plainfield to Eastwood avenue.
Division street, from Bridgham to Dexter.
Douglas avenue, from Admiral street to Veazie.
Dover street, from Academy avenue to Mount Pleasant.
Dryden lane, from Branch avenue to Printery street.
Eagle street, from Kinsley avenue to Valley street.
East Manning street, from a point near Wayland avenue to Governor street.
East Transit street, from Governor to Ives.
Eaton street, from Elmhurst to Douglas avenue.
Eddy street, from railroad bridge to Broad street.
Eighth street, from North Main to Summit avenue.
Elmwood avenue, from railroad bridge to Hathaway street.
Erastus street, from Amherst to Atwells avenue.
Federal street, from Knight to Vinton.
Florence street, from Manton avenue to Atwells.
Ford street, from Cranston to Dexter.
Francis street, from Brownell to Gaspee.
Frost street, from North Main to Cemetery.
Fruit Hill avenue, from Manton to Woonasquatucket.
Gano street, from Angell to Wickenden.
Governor street, from Pitman to Angell.
Grotto avenue, from Penrose street to Channing.
Hannah street, from Amherst to Amsterdam.

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Hanover street, from Cranston to Dexter.
Harold street, from Valley to Chalkstone avenue.
Hartford avenue, from Edna street to Laurel Hill avenue.
Heath street, from Hartford avenue to Plainfield street.
Hendricks street, from Academy avenue to Mount Pleasant.
Hope street, from Wickenden to Tockwotton.
Hudson street, from Ellery to Huntington avénue.
Hyat street, from Amherst to Kossuth.
Indiana avenue, from Eddy street to Virginia avenue.
Irving avenue, from Butler to river road.
Joslin street, from Manton avenue to Atwells.
Julian street, from Manton avenue to Atwells.
Kenyon street, from America to Federal.
Killingly street, from Plainfield to 500 feet north of Sunset avenue.
Kossuth street, from Bowdoin to Pope.
Laban street, from Heath to westerly termination of curbing.
Langdon street, from Branch avenue to Newbury street.
Laura street, from Broad to Hamilton.
Lavaughn street, from Amherst to Atwells avenue.
Livingstone street, from Branch avenue to Nichols.
Lloyd street, from Hope to Arlington avenue.
Manning street, from Thayer to Hope.
Manton avenue, from Julian street to Amherst.
Manton avenue, from Sisson street to Fruit Hill avenue.
Marshall street, from Broadway to Westminster street.
Massachusetts avenue, from Broad street to Virginia avenue.
Miller street, from Dexter to Harrison.
Miner street, from Oxford to Houston.
New York avenue, from Eddy street to Maryland avenue.
North Main street, from Grandview to city line.
Ohio avenue, from Eddy street to Virginia avenue.
Oxford street, from Eddy to Plain.
Pallas street, from Carpenter to Vernon.
Pallas street, from Broadway to Kenyon street.
Pemberton street, from Armington avenue to Dover street.
Pocasset avenue, from Webster to Laurel Hill.
Pomona avenue, from Academy to Pemberton street.
Potters avenue, from Broad street to Hamilton.
Pope street, from Amherst to Manton avenue.
Power street, from Brook to a point west of Thayer.
President avenue, from Slater to 100 feet east of Grotto.
Printery street, from Randall to Dryden lane.
Ralph street, from Plainfield to Dorchester.
Rhodes street, from Eddy to Plain.
Ring street, from Knight to Tobey.
Ringgold street, from Broadway to Kenyon street.
River avenue, from Valley street to Chalkstone avenue.
Roanoke street, from Academy avenue to Mount Pleasant.
Robinson street, from Prairie avenue to Gay street.
Rye street, from Plainfield to Dorchester.
Sayles street, from Ocean to Prairie avenue.

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Seventh street, from North Main to Highland avenue.
Sexton street, from Branch avenue to North Main street.
Smith street, from Oakland avenue to city line.
Steuben street, from Manton avenue to Atwells.
Sunset avenue, from Killingly street to city line.
Superior street, from Cranston to Diamond.
Susan street, from Cranston to Diamond.
Thayer street, from Angell to Power.
Transit street, from South Water to South Main.
Traverse street, from Tockwotton to India.
Trenton street, from Governor to Ives.
Union avenue, from Ellery street to railroad bridge.
Valley street, from Broadway to Eagle street.
Vermont avenue, from Eddy street to Virginia avenue.
Virginia avenue, from New York to Montgomery.
Washington street, from Walker to Jackson.
Washington avenue, from Broad street to Virginia avenue.
Waterman street, from Gano to Wayland avenue.
Waverly street, from Cranston to Dexter.
Webster avenue, from Plainfield street to Laban.
Whittier avenue, from Plainfield street to Ralph.
Willard avenue, from Plain street to Prairie avenue.
Williams street, from Ives to Governor.
Williams street, from a point near Governor to Brook.
Wood street, from Ellery to Huntington avenue.
Woonasquatucket avenue, from Fruit Hill to city line.
Young avenue, from Chalkstone to Smith street.
Young Orchard avenue, from Governor to Cooke.

1.844 + miles of streets have been graded during the year, namely:

Adelaide avenue, from Elmwood to Reservoir.
Berkshire street, from Admiral to June.
Douglas avenue, from Branch to Geneva bridge.
Dudley street, from Eddy to Plain.
Eighth street, from Summit avenue to Gilheeny street.
Ellery street, from Chapin avenue to Union.
Elmgrove avenue, from Irving to President.
Grotto avenue, from Penrose to Channing.
Pacific avenue, from Balch street to Aquidneck.
President avenue, from Grotto to Slater.
Ralph street, from Laban to Eastwood avenue.
Reynolds avenue, from Prairie to Baxter street.
Saunders street, from Lester to Perkins.
Seventh street, from North Main to Highland avenue.
Sunset avenue, from Killingly street to city line.
Tefft street, from Atwells avenue to West Exchange street.
Webster avenue, from Whittier to Laban street.

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1.089 + miles of streets have been repaved during the year, namely:

Back street, from Lock to Smith.
Dorrance street, from Dyer to the river.
Dyer street, from Dorrance to Eddy.
Eddy street, from Dyer to Point.
Hartford avenue, from Olneyville square to Edna street.
Manton avenue, from Olneyville square to Tar bridge.
Plainfield street, from Pocasset avenue to Laurel Hill.
Richmond street, from Point to Eddy.
Smith street, from Canal to North Main.

2.774 + miles of streets have been rebuilt during the year, namely:

Atwell's avenue, from Putnam street to Manton avenue.
Borden street, from Eddy to Hospital.
Chalkstone avenue, from Academy to Winthrop.
Dorrance street, from Dyer to the river.
Eighth street, from North Main to Highland avenue.
Eddy street, from New York avenue to Broad street.
Frost street, from North Main to Cemetery.
Hartford avenue, from Olneyville square to Laurel Hill avenue.
Livingstone street, from Printery to Nichols.
Lloyd street, from Hope to Arlington avenue.
Ralph street, from Plainfield to Dorchester.
Richmond street, from Point to Eddy.

During the quarter the following work was completed:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
June 21, 1900,	*Berkshire street, from Admiral to June.*
Sept. 20, "	*Pacific avenue, from Burrington street to Aquidneck.*
" " "	*Adelaide avenue, from Elmwood to Reservoir.*
" " "	*Calla street, from Broad to Eddy.*
Oct. 18, "	*Winchester place, from Elmwood avenue to Melrose street.*
" " "	*Dudley street, from Plain to Eddy.*
" " "	*Reynolds avenue, from Barter street to Prairie avenue.*

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To Build Foundations, Etc.

No. of resolution.	Date of approval.	
264.	June 23, 1900,	"*Carrie Brown Memorial Fountain,*" *City Hall park.*

To Remove Rails of Providence & Worcester Railroad Company, et al.

323.	Sept. 12, 1899,	*Canal street, Market square and South Water street.*

The following work, ordered by the board of aldermen and city council, had not commenced December 31, 1900, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
Sept. 20, 1900,	*Perkins street, from Pearl to A.*
Oct. 18, "	*Danforth street, from Smith to Vale.*
" " "	*Ontario street, from Broad to Hamilton.*
" " "	*Saunders street, from Lester to Perkins.*

To Grade and Repair, when Abutting Owners Curb and Pave Gutters.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

No. of resolution.	Date of approval.	
149.	April 25, 1900,	*Elmgrove avenue, east side, from President to Doyle, and west side, from President to Hazard.*

To Grade, when Union Railroad Company is Authorized to Extend its Rails.

455.	Dec. 30, 1898,	*Douglas avenue, from Chad Brown street to Admiral.*

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Bills approved on account of highways from October 1 to December 31, 1900, inclusive, amounted to:

Regular appropriation	$92,186 26	
Special appropriation	1,499 75	
Special credit appropriation	3,020 05	
		$96,706 06

Classified as follows:

Crushed stone — material and labor	$28,023 67	
Repairs on unpaved streets	18,997 50	
Cleaning streets	15,628 62	
Stone — paving and crosswalk	7,885 51	
Repairs on paved streets	3,614 86	
Barn expenses	3,122 05	
Blacksmith and wheelwright shop	2,585 42	
Tools, implements, etc	1,037 09	
Horses, wagons, harnesses, etc	978 53	
Labor on material	853 47	
Steam rollers — repairs and supplies	744 29	
Repairs on stone crushers	711 59	
Building driveways, etc	529 44	
Salary, superintendent	442 00	
Watchman at city yard	156 00	
Sundries	103 50	
Office expenses, city yard	96 02	
Repairs on buildings, highway yard	57 35	
Watering streets	45 00	
Fencing streets, material and labor	21 93	
		85,633 84

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Adelaide avenue, from Elmwood to Reservoir	$637 79	
Berkshire street, from Admiral northerly to June	1,057 47	
Calla street, from Broad to Eddy	703 98	
Danforth street, from Smith to Vale	91 55	
Dudley street, from Plain to Eddy	2,896 95	
Pacific avenue, from Burrington street to Aquidneck	2,316 07	
Reynolds avenue, from Baxter street to Prairie avenue	1,633 31	
Winchester place, from Elmwood avenue to Melrose street	1,604 36	
		10,941 48
Amount carried forward		$96,575 32

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Amount brought forward	$96,575 32

GRADE AND REPAIR.

Elmgrove avenue, east side, from President to Doyle and west side, from President to Hazard	130 74
	$96,706 06

Bills deposited with the city treasurer for collection from October 1 to December 31, 1900, inclusive, amounted to $16,903 74

As follows:

Labor and material	$10,384 01
Union Railroad Company for granite blocks, etc.	5,219 02
Blacksmith and harness work for other departments	713 78
Boarding horses for other departments	223 58
Street sweepings	178 00
Use of steam roller	99 00
Manure from barn	75 00
Old oil barrels	6 60
Carriage jack and wrench	4 75
	$16,903 74

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $15,033 82

As follows:

Labor and material	$9,613 91
Union Railroad Company for granite blocks, etc.	3,971 20
Blacksmith and harness work for other departments	713 78
Boarding horses for other departments	223 58
Street sweepings	218 00
Use of watering cart	108 00
Use of steam roller	99 00
Manure from barn	75 00
Old oil barrels	6 60
Carriage jack and wrench	4 75
	$15,033 82

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SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from October 1 to December 31, 1900, inclusive, amounted to . . . $3,375 13

Charged as follows:

Granite curbing	$1,556 93
Concreting sidewalks	1,324 69
Repairing sidewalks and gutters	493 51
	$3,375 13

Bills deposited with the city treasurer for collection from October 1 to December 31, 1900, inclusive, amounted to . . . $2,299 89

As follows:

Curbing bills	$2,286 39
Discharging cargoes at city wharf	13 50
	$2,299 89

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $3,136 44

As follows:

Curbing bills	$3,122 94
Discharging cargoes at city wharf	13 50
	$3,136 44

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CITY ENGINEER.

Bills approved on account of the city engineer's department from October 1 to December 31, 1900, inclusive, amounted to $11,762 29

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,364 19
Salaries of clerks	789 75
Car fares	205 70
Supplies — drawing material, etc.	176 36
Instruments and repairs	78 60
Meteorological instruments and repairs	17 50
Sundries	5 19
	$11,762 29

BRIDGES.

October 10th, the proposal of the Boston Bridge Works to furnish a steel girder for the Atwells avenue bridge was accepted and a contract subsequently executed.

During the quarter the following work was completed, namely:

No. of resolution.	Date of approval.	
158.	April 20, 1897,	*Weybosset bridge and river walls.*
187.	May 20, 1898,	*Weybosset bridge extension.*

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*

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Bills approved on account of bridges, from October 1 to December 31, 1900, inclusive, amounted to $8,015 75

Charged as follows:

Atwells avenue bridge	$1,525 00
Barn expenses	112 72
Building at city yard	6 38
Burnside bridge	10 11
Crawford street bridge	334 34
Exchange bridge	29 93
Horses, wagons, harnesses, etc	27 94
Lumber, hardware, etc	2,102 33
Manton avenue bridge	87 45
Manton bridge	24 05
Point street bridge	208 55
Red bridge	678 40
Rent of keeper's house, Washington bridge	30 00
Salaries — Point street bridge	983 50
Salaries — Red bridge	524 36
Salaries — Washington bridge	516 18
Sundries	125 28
Tools	78 19
Valley street culvert	28 45
Veazie street bridge	3 00
Washington bridge	500 29
Washington row bridge	34 47
Weybosset bridge	44 83
	$8,015 75

Bills approved and paid from the appropriation for Weybosset bridge and river walls, from October 1 to December 31, 1900, inculsive, amounted to . . . $1,236 60

Charged as follows:

Exchange place and extension of Exchange street.	$1,236 51
Mill street bridge — to rebuild	09
	$1,236 60

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PUBLIC LIGHTS.

There were in use December 31, 1900, under contract with the Narragansett Electric Lighting Company, dated October 29, 1892, and the supplemental contracts dated March 14, 1895, and July 5, 1898, 1,898 electric arc lights of 2,000 candle power each, at a rate per night of 32½ cents per light, and 85 electric incandescent lights of 32 candle power at a cost of $24.00 each per year.

In addition to the above there were being installed under contract with the Narragansett Electric Lighting Company, dated May 12, 1900, 1,850 electric incandescent lights of 32 candle power, at a cost of $24.00 each per year; 116 of these lights were in use at the end of the quarter. These lights take the place of the dim and unsatisfactory gasoline lamps and furnish a superior light at less cost.

At the close of the quarter the Welsbach Street Lighting Company, under contract dated November 30, 1900, were engaged in installing from 785 to 1,000 lights of 60 candle power each, to supersede the ordinary gaslight equipped with the automatic lighting clock device. The Company furnishes a lamp of about three times the power of the old gas lamp, together with the gas and all labor incidental to lighting, cleansing, and the proper care and maintenance of the lamps. The cost is thirty dollars a year for each light.

Bills approved on account of the public lights from October 1 to December 31, 1900, inclusive, amounted to $73,202 35

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Charged as follows:

Arc lights	$55,884 20
Gasolene lights	9,196 89
Gas for street lights	5,046 30
Automatic gas lighting	1,702 28
Incandescent lights	621 78
Salaries	569 50
Barn expenses	112 46
Setting and removing gas posts	43 55
Car fares	10 00
Supplies for repairing posts and lanterns	9 75
Tools	4 50
Horses, wagons, harnesses, etc	1 14
	$73,202 35

Bills deposited with the city treasurer for collection from October 1 to December 31, 1900, inclusive, amounted to . . . $445 24

As follows:

Gas posts, lanterns and fixtures	$431 10
Removing and repairing gas posts, etc	14 14
	$445 24

During the quarter coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $437 16

As follows:

Gas posts, lanterns and fixtures	$430 10
Removing and repairing gas posts, etc	7 06
	$437 16

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PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from October 1 to December 31, 1900, inclusive, amounted to . . . $5,264 47

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,238 49
Office supplies	100 98
	$5,264 47

CONTINGENCIES.

Bills approved for the inspection of electric wires from October 1 to December 31, 1900, inclusive, have been paid from the appropriation for contingencies to the amount of $18 80

ROBERT E. SMITH,

Commissioner.

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SEVENTY-THIRD QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING MARCH 31, 1901.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
51 Washington Street.
1901.

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TILDEN FOUNDATIONS.
1901

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., April 1, 1901.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-third quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending March 31, 1901:

WATER WORKS.

March 18th, the proposal of Phillips Lead and Supply Company to furnish and deliver 30,000 pounds pig lead and 300 pounds pig tin was accepted. Amount, $1,413.

March 19th, the proposal of Phillips Lead and Supply Company to furnish and deliver 28,000 pounds lead pipe, various sizes, was accepted. Amount, $1,324.40.

The average daily consumption of water during the quarter was 10,260,798 gallons.

Water pipes were laid during the quarter as follows.

6-INCH.

In Jewell, Jillson, Thayer and Waterloo streets, and in Kelley avenue in town of Johnston.....	745.83 feet.

or, .141 + mile.

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Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	96,104.74 feet.
10-inch	15,057.14 feet.
8-inch	271,569.40 feet.
6-inch	1,170,682.29 feet.
Total	1,712,295.70 feet.

or, 324.298 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

One fire hydrant has been set during the quarter in the following location:

Jewell street, east side, about 2 feet north of north building line of Nye street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred and eighty-seven — eighteen hundred and one flush, and eighty-six post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter two hundred and nine water meters were set, of which number sixty were to replace other meters. The use of seven meters was discontinued.

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The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,592	530	126	15	6	.....	.....	.....	3,269
Ball & Fitts, rotary	.....	.....	6	9	.....	2	1	.....	18
Crown	8,527	904	271	124	30	21	17	.....	9,894
Empire	483	77	44	35	8	.....	1	.....	648
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	10	23	11	2	46
Thomson	3,434	422	76	54	22	7	7	2	4,024
Trident	52	.....	.....	.....	.....	.....	.....	.....	52
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	15,089	1,934	524	237	77	53	37	4	17,955

One hundred and twenty plumbers' licenses were issued during the quarter, all of which expire December 31, 1901.

Five hundred and thirteen permits to do plumbing work were issued during the quarter.

Sixty-nine applications for water were made during the quarter, making the total number March 31, 1901, twenty-four thousand two hundred and fifty-one.

The number of new service stops opened during the quarter was fifty-two.

The total number of service stops opened to March 31, 1901, inclusive, was twenty-three thousand five hundred and fifty-four. The number in actual use March 31, 1901, was twenty-one thousand five hundred and eighty-five.

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The amount of bills approved on account of water works from January 1 to March 31, 1901, inclusive, was $40,373.17.

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$2,210 51	
Sundries	724 54	
Engineers	542 13	
Firemen	454 45	
Superintendence	299 00	
Care of grounds	272 39	
Worthington high-duty pumping engine	203 83	
Repairs on boilers	169 57	
Labor on fuel	84 80	
Barn expenses	42 44	
Oil, waste and packing	33 40	
Corliss pumping engine and house	28 80	
Cornish engine house	8 30	
Lights	1 89	
		$5,076 05

SOCKANOSSET RESERVOIR.

Watchman	$182 00	
Sundries	121 43	
		303 43

HOPE PUMPING STATION.

Firemen	$385 70	
Engineers	299 00	
Sundries	73 68	
Lights	67 62	
		826 00

HOPE RESERVOIR.

Watchman		204 75

FRUIT HILL RESERVOIR.

Sundries	$220 69	
Watchman	204 75	
		425 44
Amount carried forward		$6,835 67

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Amount brought forward		$6,835 67
METER DEPARTMENT.		
Water meters	$2,555 54	
Setting and repairing meters	1,349 09	
		3,904 63
PIPE LINE AND SERVICE STOPS.		
Repairs	$3,624 38	
Superintendence—salaries	848 75	
		4,473 13
PIPE YARD.		
Cast iron water pipe	$13,630 01	
Fire hydrants, boxes and covers	2,314 10	
Stop valves	1,884 05	
Special castings	1,289 27	
Laying water pipe	700 90	
Laying service pipe	694 83	
Taps and stops	563 79	
Service pipe	532 20	
Labor on and carting pipe	217 50	
Tools	191 35	
Pig lead and tin	58 80	
Pipe yard, office expenses	48 24	
Repairs on pipe yard buildings	7 16	
		22,132 20
MISCELLANEOUS.		
Clerks' and inspectors' salaries	$1,529 32	
Barn expenses	665 61	
Prevention of defilement of the Pawtuxet	549 99	
Horses, wagons, harnesses, etc	129 31	
Analyses of water	90 00	
Car fares	50 00	
Sundries	11 88	
Public drinking fountains and troughs	97	
Telephone lines	46	
		3,027 54
		$40,373 17

The total amount of expenditures to March 31, 1901, inclusive, was . . $9,071,815 29

The *net* expenditure for construction and extension to March 31, 1901, inclusive, was	$6,470,093 35
The *net* expenditure for maintenance from January 1 to March 31, 1901, inclusive, was	$34,725 27
The *net* expenditure for maintenance to March 31, 1901, inclusive, was	$1,656,617 06

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The value of the water works system, January 1, 1901, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	135,157 13	
Sockanosset, Hope and Fruit Hill reservoirs	729,080 13	
Main lines and distribution pipes	2,725,528 92	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	28,969 19	
		$3,975,404 37

Bills deposited with the city treasurer for collection from January 1 to March 31, 1901, inclusive, amounted to . . $397,440 75

As follows:

Water	$392,333 97
Water meters	2,996 25
Setting and repairing meters	1,273 72
Labor and material, laying services, etc	288 12
Repairs on pipe line	233 69
Penalties	192 00
Rent of real estate	93 00
Permanently closing service stops	30 00
	$397,440 75

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $390,886 91

As follows:

Water	$385,147 01
Water meters	3,076 00
Setting and repairing meters	1,803 40
Labor and material, laying service pipe, etc	345 37
Repairs on pipe line	201 38
Penalties	192 00
Rent of real estate	101 75
Permanently closing service stops	20 00
	$390,886 91

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SEWERS.

During the quarter ending March 31, 1901, one hundred and fifty-four permits were issued to drain layers — sixty-one for new work and ninety-three for extension and repairs of drains.

One hundred and thirty-four drain layer's licenses were issued during the quarter, all of which expire December 31, 1901.

January 10th, the proposal of Frederick E. Shaw to rebuild the storm sewer in sidewalk of central fire station, Exchange place, was accepted and a contract subsequently executed. Amount, $1,378.60.

February 6th, the offer of Charles S. Bush Company to furnish and deliver apparatus and chemicals for the chemical laboratory at Field's point was accepted. Amount, $464.19.

March 25th, the proposal of Edwin D. Allen to furnish and deliver 500,000 sewer brick at $7.00 per M. was accepted and a contract subsequently executed.

March 25th, the proposal of Charles M. Kelly to furnish and deliver 500,000 sewer brick at $7.00 per M. was accepted and a contract subsequently executed.

During the quarter, assessments for the cost of constructing sewers were certified to the city treasurer as follows:

Webster avenue, from Laban street to Eastwood avenue.....	$373 67
Deborah street, from near Dorchester avenue to Plainfield street.	1,010 10
Whittier avenue, from near Ralph street to Dewey.....	1,321 28
Ralph street, from Dorchester avenue to Plainfield street.....	1,604 31
Laban street, Eastwood and Webster avenues, Heath street and Hartford avenue.....	17,646 45
Amount carried forward.....	$21,955 81

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Amount brought forward	$21,955 81
Roosevelt street, from Laurel Hill avenue to Webster	3,645 30
Winchester place, from Melrose street to Elmwood avenue	1,577 84
Burnside street, from near Colfax to Thurbers avenue	407 74
Ontario street, from Broad to Hamilton	2,972 70
Ellery street, from Wendell to Union avenue	1,921 84
Broad street, east side, at Elma street	191 17
Durfee street, from near Hammond to Harrison	307 05
Priscilla avenue, from Sterling to Union	4,466 26
Total	$37,445 71

At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution. Date of approval.

349. Sept. 12, 1900, *Section 24, Moshassuck Division, Improved Sewerage System.*

349. " " " *Section 25, Moshassuck Division, Improved Sewerage System.*

Work upon the following lateral sewer was in progress at the close of the quarter, namely:

No. of resolution. Date of approval.

388. Oct. 5, 1900, *Frontenac, University and Taber avenues.*

Work upon the following sewer, completing the work ordered by the city council, had not commenced March 31, 1901, namely:

No. of resolution. Date of approval.

349. Sept. 12, 1900, *Section 26, Moshassuck Division, Improved Sewerage System.*

The amount of bills approved on account of sewers from January 1 to March 31, 1901, inclusive, was as follows:

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FOR CONSTRUCTION.

Regular appropriation	$9,165 33	
Improved sewerage system	22,703 41	
		$31,868 74

Charged as follows:

Material	$8,833 93
Contract reservations	995 00
Testing cement	286 02
Sundries	158 75
Tools	2 23
Sewer in Frontenac, University and Taber avenues	794 70
Chemical and laboratory buildings — to erect	2,269 70
Machinery for sludge press house	706 70
Salaries of assistant engineers	585 00
Sewage precipitation tanks — to build	403 49
Sewer in Moshassuck Division, Section 24	7,317 73
Sewer in Moshassuck Division, Section 25	7,742 17
Sludge press house — to build	1,773 32
	$31,868 74

For maintenance, ... $13,886 27

Classified as follows:

Cleaning basins and sewers	$5,331 90
Repairing basins and sewers	1,396 37
Cleaning and repairing old drains	785 65
Inspection of connections	638 08
Barn expenses	483 19
Salary — superintendent	442 00
Horses, wagons, harnesses, etc	336 01
Tools	236 14
Sundries	183 14
Cleaning private connections	66 60
Office expenses	48 84
Filling cisterns, etc	30 85
Repairs on gate houses	30 00
Sewer in sidewalk of central fire station Exchange place — to build	15 00
Repairs on buildings — sewer maintenance yard	9 00

ERNEST STREET STATION.

Coal and wood	$887 [illegible]
Engineers	853 [illegible]
Amount carried forward	[illegible]

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Amount brought forward	$11,782 11
Cleaning screens	657 83
Firemen	420 23
Cleaning and repairing pumps	130 25
Supplies	115 07
Lights	54 60
Repairs on boilers	44 73
Repairs on engines	44 49
Care of grounds	32 52
Care of buildings	27 88

SEWAGE PRECIPITATION TANKS.

Care of boilers	$162 75
Watchman	162 75
Fuel	122 15
Supplies for laboratory	69 50
Miscellaneous supplies	58 85
Supplies for chemical house	56
	$13,886 27

The *net* expenditure for construction of sewers to March 31, 1901, inclusive, was $6,855,893 24

The *net* expenditure for maintenance of sewers to March 31, 1901, inclusive, was $751,274 16

Bills deposited with the city treasurer for collection from January 1 to March 31, 1901, inclusive, amounted to . . . $1,292 09

As follows:

Old iron	$245 19
Miscellaneous work	91 36
Cleaning private connections	82 50
Filling cisterns, etc	34 30
Sewer material	838 74
	$1,292 09

During the quarter coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . $1,442 14

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As follows:

Miscellaneous work	$295 24
Old brass and iron	192 72
Cleaning private connections	73 75
Old hose and rubber boots	35 59
Filling cisterns, etc.	4 00
Sewer material	838 74
Testing cement	2 10
	$1,442 14

HIGHWAYS.

One permit to open street was issued during the quarter.

March 25th, the offer of A. G. Crumb & Sons to furnish and deliver 50,000 granite paving blocks, at $1.25 per square yard, was accepted.

Statements have been prepared of the cost of curbstones set, ascertained by the commissioner and certified to the board of aldermen for approval, as follows:

Adelaide avenue, from Elmwood to Reservoir	$337 00
Bancroft street, from Sterling avenue to Kelly street	951 43
Berkshire street, from Admiral to June	458 28
Calla street, from Broad to Eddy	653 32
Dudley street, from Plain to Eddy	1,577 71
Elmgrove avenue, from Irving to Humboldt	568 90
Hayward street, from end of curbing to Lockwood street	82 10
Lily street, from Spruce to Atwells avenue	288 75
Pacific avenue, from Burrington street to Aquidneck	1,285 26
Pleasant street, from Ivy to East avenue (now Hope street)	807 59
Reynolds avenue, from Baxter street to Prairie avenue	876 27
Sterling avenue, from Webster to Bancroft street	1,157 76
Tefft street, from Atwells avenue to West Exchange street	709 19
Trenton street, from Ives to Gano	803 84
Union avenue, from present end of curbing to Webster avenue	1,917 [illegible]
Waldo street, from Cranston to Sorrento	74[illegible]
Waldo street, from Salem to Dexter	6[illegible]
Winchester place, from Elmwood avenue to Melrose street	1,21[illegible]
Total	[illegible]

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The following work, ordered by the board of aldermen and city council, had not commenced March 31, 1901, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
Sept. 20, 1900,	*Perkins street, from Pearl to A.*
Oct. 18, "	*Danforth street, from Smith to Vale.*
" " "	*Ontario street, from Broad to Hamilton.*
" " "	*Saunders street, from Lester to Perkins.*

TAKE POSSESSION AND PUT PORTION IN GOOD CONDITION.

March 21, 1901, *Allens avenue, from Public street to Swan.*

TO GRADE AND REPAIR, WHEN ABUTTING OWNERS CURB AND PAVE GUTTERS.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

No. of resolution.	Date of approval.	
149.	April 25, 1900,	*Elmgrove avenue, east side, from President to Doyle, and west side, from President to Hazard.*

TO GRADE, WHEN UNION RAILROAD COMPANY IS AUTHORIZED TO EXTEND ITS RAILS.

455.	Dec. 30, 1898,	*Douglas avenue, from Chad Brown street to Admiral.*

Bills approved on account of highways from January 1 to March 31, 1901, inclusive, amounted to $37,171 29

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Classified as follows:

Crushed stone — material and labor	$10,445 35	
Cleaning streets	6,873 21	
Repairs on unpaved streets	3,681 26	
Barn expenses	2,924 25	
Blacksmith and wheelwright shop	2,808 31	
Steam rollers — repairs and supplies	2,486 56	
Removing snow and ice	1,840 87	
Stone — paving and crosswalk	1,772 49	
Labor on material	1,408 75	
Repairs on stone crushers	862 89	
Tools, implements, etc	720 00	
Salary, superintendent	442 00	
Horses, wagons, harnesses, etc	221 28	
Watchman at city yard	156 00	
Office expenses, city yard	99 60	
Repairs on paved streets	42 00	
Sundries	31 54	
Fencing streets, material and labor	8 50	
Repairs on buildings, highway yard	7 65	
Building driveways, etc	6 30	
		$36,838 81

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Danforth street, from Smith to Vale	332 48
	$37,171 29

Bills deposited with the city treasurer for collection from January 1 to March 31, 1901, inclusive, amounted to . . . $8,955 92

As follows:

Labor and material	$3,765 74
Union Railroad Company for granite blocks	3,697 84
Blacksmith and harness work for other departments	656 32
Boarding horses for other departments	336 27
Street sweepings	259 00
Use of steam roller	145 50
Manure from barn	75 00
Discharging cargoes at city wharf	20 25
	$8,955 92

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $12,747 75

As follows:

Labor and material	$7,033 77
Union Railroad Company for granite blocks	4,221 64
Blacksmith and harness work for other departments	656 32
Boarding horses for other departments	336 27
Street sweepings	259 00
Use of steam roller	145 50
Manure from barn	75 00
Discharging cargoes at city wharf	20 25
	$12,747 75

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from January 1 to March 31, 1901, inclusive, amounted to . . . $843 70

Charged as follows:

Concreting sidewalks	$473 40
Repairing sidewalks and gutters	293 30
Granite curbing	77 00
	$843 70

Curbing bills deposited with the city treasurer for collection from January 1 to March 31, 1901, inclusive, amounted to . $15,047 43

During the quarter coupons from curbing bills collected have been returned by the city treasurer and receipted for to the amount of $3,424 26

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CITY ENGINEER.

Bills approved on account of the city engineer's department from January 1 to March 31, 1901, inclusive, amounted to . $11,537 09

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,355 68
Salaries of clerks	789 75
Supplies — drawing material, etc	204 37
Sundries	58 74
Carriage hire	2 00
Car fares	1 55
	$11,537 09

Bills deposited with the city treasurer for collection from January 1 to March 31, 1901, inclusive (for one transit), amounted to $50 00

During the quarter coupons from bills collected (for one transit) have been returned by the city treasurer and receipted for to the amount of $50 00

BRIDGES.

March 15th, the offer of Hovey Lumber Company to furnish and deliver 20,000 feet B. M. white spruce plank was accepted. Amount, $370.

March 18th, the proposal of Frederick E. Shaw to rebuild the east abutment and wing walls of the Hawkins street bridge was accepted and a contract subsequently executed. Amount, $730.40.

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March 21st, the proposal of Frederick E. Shaw to rebuild the culvert and wing walls at Branch avenue, over the Randall brook, was accepted, and a contract subsequently executed. Amount, $1,002.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*

Bills approved on account of bridges, from January 1 to March 31, 1901, inclusive, amounted to $3,953 64

Charged as follows:

Barn expenses	$121 12
Branch avenue culvert	91 45
Building at city yard	6 30
Crawford street bridge	55 05
Geneva bridge	2 70
Hawkins street bridge	300 23
Horses, wagons, harnesses, etc	10 37
Lumber, hardware, etc	64 69
Park street bridge	3 30
Point street bridge	269 61
Randall street bridge	10 50
Red bridge	95 23
Rent of keeper's house, Washington bridge	30 00
Salaries — Point street bridge	978 25
Salaries — Red bridge	527 50
Salaries — Washington bridge	486 25
Sundries	190 21
Tools	219 23
Valley street bridge — north span	3 60
Valley street bridge — south span	1 20
Washington bridge	389 81
West River street bridge	39 25
Weybosset bridge	57 79
	$3,953 64

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Bills deposited with the city treasurer for collection from January 1 to March 31, 1901, inclusive (for lumber used in boxing water pipe), amounted to	$41 89
During the quarter coupons from bills collected (for lumber used in boxing water pipe) have been returned by the city treasurer and receipted for to the amount of .	$41 89
Bills approved and paid from the appropriation for Weybosset bridge and river walls, from January 1 to March 31, inclusive, for building Exchange place, and the extension of Exchange street, amounted to	$462 50

PUBLIC LIGHTS.

Bills approved on account of the public lights from January 1 to March 31, 1901, inclusive, amounted to	$71,407 35

Charged as follows:

Arc lights	$54,597 99
Gasolene lights	6,641 56
Welsbach lights	5,706 93
Incandescent lights	3,642 51
Salaries	518 00
Barn expenses	121 11
Horses, wagons, harnesses, etc	76 33
Gas for street lights	68 25
Setting and removing gas posts	18 86
Car fares	10 00
Supplies for repairing posts and lanterns	4 98
Tools	83
	$71,407 35

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SEP 7 1901

SEVENTY-FOURTH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING JUNE 30, 1901.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS
63 Washington Street.
1901.

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1901

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., July 1, 1901.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-fourth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending June 30, 1901:

WATER WORKS.

April 10th, the offer of Citizens Concrete Company to lay new concrete walks around Hope Reservoir for forty-three cents per square yard, and top-dress old walks for twenty-five cents per square yard, was accepted.

April 16th, the proposal of John A. Nisbet to cut the grass at Hope reservoir for the season of 1901, in accordance with specifications, for the sum of $225.00, with the further charge of $35.00 for each additional cutting that may be required, was accepted.

May 6th, the proposal of John R. White & Son to furnish and deliver at Hope pumping station 450 tons Reading free burning egg coal at $4.50 per ton, was accepted.

June 18th, the proposal of R. B. Little & Company to furnish and deliver at Pettaconset pumping station George's Creek Cumberland coal as required, from July 1, 1901, to

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July 1, 1902, estimated 2,500 tons, at $3.65 per ton of 2,000 pounds, was accepted.

The average daily consumption of water during the quarter was 10,155,480 gallons.

Water pipes were laid during the quarter as follows.

8-INCH.

In Admiral, Angell and Gano streets; Allens, Douglas, Laurel and President avenues; in Narragansett boulevard, in the town of Cranston; and in Smith street, in the town of North Providence	1,335.99 feet.

6-INCH.

In Alicant, Berkley, Borden, Brockholst, Carlisle, Cumerford, Ethan, Greenwood, Hauxhurst, Heath, Hillhurst, Hicks, Phillips, Russell, Spencer, Sutton and Swiss streets; Arlington, Armington, Beacon, Brandywine, Doyle, Elmgrove, Lenox, Lloyd, Miles, Prudence, Reservoir, Union and University avenues; in Greenwood, Marlborough, Northup and Orchard streets; Massasoit, Sumner, and Shaw avenues, in the town of Cranston; in Railroad avenue, in the town of Johnston; and in Smith street in the town of North Providence	13,042.66 feet.
Total	14,378.65 feet.

or, 2.723 + miles.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.39 feet.
16-inch	34,084.95 feet.
12-inch	96,104.74 feet.
10-inch	15,057.14 feet.
8-inch	272,905.39 feet.
6-inch	1,183,724.95 feet.
Total	1,726,674.35 feet.

or, 327.021 + miles.

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Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Nine fire hydrants have been set during the quarter, one in each of the following locations:

Borden street, north side, 216 feet east of Beacon avenue.

Burrill street, west side, 9 feet south of south building line of Westminster street.

Elmgrove avenue, east side, about 3 feet south of south building line of Lloyd avenue.

Elmgrove avenue, east side, about 3 feet north of north building line of President avenue.

Gano street, east side, 1 foot south of south building line of Lloyd avenue.

Greenwood street, east side, 187 feet south of south building line of Atwells avenue.

Landor street, east side, 164 feet south of south building line of East Beacon street.

Lexington avenue, north side, 2.5 feet west of west building line of Niagara street.

Prudence avenue, north side, 436 feet west of west building line of Pocasset avenue.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now eighteen hundred and ninety-six — eighteen hundred and ten flush, and eighty-six post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter two hundred and seventeen water meters were set, of which number fifty-one were to replace other meters. The use of five meters was discontinued.

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The following meters were in use at the close of the quarter:

Kind.	Size.								Total
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,560	522	124	14	6	.....	.....	.....	3,229
Ball & Fitts, rotary	.....	.....	6	7	.....	2	1	.....	16
Crown	8,624	922	278	127	30	20	18	.....	10,019
Empire	521	81	46	36	9	.....	1	.....	694
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	10	23	13	2	48
Thomson	3,466	423	76	54	21	7	7	2	4,056
Trident	52	.....	1	.....	.....	.....	.....	.....	53
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	15,224	1,949	532	238	77	52	40	4	18,116

Four plumbers' licenses were issued during the quarter, making the total number one hundred and twenty-four, all of which expire December 31, 1901.

Eight hundred and eighty-eight permits to do plumbing work were issued during the quarter.

Two hundred and sixty-two applications for water were made during the quarter, making the total number June 30, 1901, twenty-four thousand five hundred and thirteen.

The number of new service stops opened during the quarter was two hundred and thirty-six.

The total number of service stops opened to June 30, 1901, inclusive, was twenty-three thousand seven hundred and ninety. The number in actual use June 30, 1901, was twenty-one thousand nine hundred and thirty-three.

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The amount of bills approved on account of water works from April 1 to June 30, 1901, inclusive, was $31,860.96.

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$2,263 07	
Sundries	610 26	
Engineers	525 33	
Firemen	416 90	
Care of grounds	299 25	
Superintendence	299 00	
Repairs on boilers	104 47	
Labor on fuel	57 90	
Oil, waste and packing	55 23	
Barn expenses	42 72	
Worthington high-duty pumping engine	39 24	
Real estate	33 15	
Cornish engine house	23 28	
Corliss pumping engine and house	12 00	
Lights	42	
		$4,782 22

SOCKANOSSET RESERVOIR.

Sundries	$232 20	
Watchman	182 00	
		414 20

HOPE PUMPING STATION.

Coal and wood	$2,275 00	
Firemen	400 40	
Engineers	299 00	
Lights	49 35	
Sundries	42 05	
Care of grounds	27 00	
Repairs on boilers	24 67	
Holly pumping engine	22 80	
Oil, waste and packing	12 00	
		3,152 27

HOPE RESERVOIR.

Sundries	$1,114 63	
Watchman	204 75	
		1,319 38
Amount carried forward		$9,668 07

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Amount brought forward		$9,668 07

Fruit Hill Reservoir.

Sundries	$484 69	
Watchman	204 75	
		689 44

Meter Department.

Water meters	$2,714 91	
Setting and repairing meters	1,293 29	
		4,008 20

Pipe Line and Service Stops.

Repairs	$3,808 04	
Superintendence — salaries	852 65	
		4,660 69

Pipe Yard.

Laying water pipe	$3,864 35	
Pig lead and tin	1,429 48	
Service pipe	1,347 28	
Laying service pipe	1,223 61	
Fire hydrants, boxes and covers	824 49	
Special castings	394 33	
Taps and stops	364 61	
Tools	207 69	
Labor on and carting pipe	171 60	
Patterns for special castings	10 48	
Pipe yard, office expenses	8 65	
Stop valves	96	
		9,847 55

Miscellaneous.

Clerks' and inspectors' salaries	$1,529 32	
Prevention of defilement of the Pawtuxet	549 99	
Barn expenses	461 20	
Horses, wagons, harnesses, etc	182 49	
Car fares	117 00	
Analyses of water	90 00	
Real estate at Pawtuxet	22 50	
Sundries	22 08	
Public drinking fountains and troughs	12 45	
		2,987 03
		$31,860 98

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The total amount of expenditures to June 30, 1901, inclusive, was . . $9,103,676 25

The *net* expenditure for construction and extension to June 30, 1901, inclusive, was	$6,470,093 35
The *net* expenditure for maintenance from March 31 to June 30, 1901, inclusive, was	$23,581 46
The *net* expenditure for maintenance to June 30, 1901, inclusive, was	$1,680,198 52

The value of the water works system, January 1, 1901, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	135,157 13	
Sockanosset, Hope and Fruit Hill reservoirs	729,080 13	
Main lines and distribution pipes	2,725,528 92	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	28,969 19	
		$3,975,404 37

Bills deposited with the city treasurer for collection from April 1 to June 30, 1901, inclusive, amounted to . . . $71,032 79

As follows:

Water	$60,471 52
Water meters	4,096 25
Labor and material, laying services, etc	2,937 26
Setting and repairing meters	1,920 44
Cast iron water pipe	1,170 96
Repairs on pipe line	145 34
Rent of real estate	93 00
Penalties	54 00
Standing grass at Randall farm	50 00
Permanently closing service stops	40 00
Old iron	29 25
Turf and loam from land at Pawtuxet	24 77
	$71,032 79

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $72,405 22

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As follows:

Water	$64,071 72
Water meters	4,067 25
Labor and material, laying services, etc	2,419 21
Setting and repairing meters	1,447 11
Repairs on pipe line	113 91
Rent of real estate	93 00
Penalties	54 00
Standing grass at Randall farm	50 00
Permanently closing service stops	35 00
Old iron	29 25
Turf and loan from land in Pawtuxet	24 77
	$72,405 22

SEWERS.

During the quarter ending June 30, 1901, three hundred and eighty-one permits were issued to drain layers — two hundred and thirty-two for new work and one hundred and forty-nine for extension and repairs of drains.

Seven drain layer's licenses were issued during the quarter, making the total number one hundred and forty-one, all of which expire December 31, 1901.

April 13th, the offer of E. M. Shaw to furnish steel rails for precipitation tanks at Field's point for the sum of $29.00 per gross ton, was accepted.

May 15th, the offer of John Johnson & Co. to furnish the balance of the sewage press plates due, recessed 3-8 inch instead of 1-2 inch, and 84 extra plates to make the twelve remaining presses 55 chamber presses instead of 48, for the sum of $1,663.20, was accepted.

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May 25th, the proposal of John Johnson & Co. to furnish 1,000 chain cloths made up single to fit sludge filter press plates for the sum of seventy-five cents per chamber, was accepted.

June 18th, the proposal of the Providence Coal Company to furnish and deliver at Ernest street pumping station New River coal as required, from July 1, 1901 to July 1, 1902, estimated 1,000 tons, at $3.30 per ton of 2,000 pounds, was accepted.

During the quarter assessments for the cost of constructing sewers were certified to the city treasurer as follows:

Calla street, from Eddy to Broad	$1,050 96
Atwells avenue, from the railroad bridge to near Eagle street	613 49
Balaklava street, from near Pekin to Douglas avenue	655 58
Thayer street, from near Angell to Waterman	428 29
East George street, from Governor to Ives	470 13
River avenue, from Harvest street to Berkley	851 58
River and Chalkstone avenues	1,953 25
Capron street, from near Julian to Chaffee	1,205 75
Waterman street, from near Gano to Wayland avenue	1,833 18
Swiss street, from near Knight to Ridge	1,325 58
Dudley street, from Plain to Eddy	3,596 54
Adelaide avenue, Miner and Oxford streets	1,906 01
Charles and Printery streets	3,197 85
Young avenue and Federal street	1,683 27
Alger and Pacific avenues	4,640 09
Admiral street, from Douglas avenue to Berkshire street	6,570 89
Admiral and Berkshire streets	8,968 97
Canal street extension, Section 20	753 19
Printery street, from Pettis to Dryden lane, Section 22	2,501 04
Total	$44,205 64

May 22nd contracts for the construction of the following sewers were awarded and subsequently executed, namely:

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[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
174.	May 7, 1901,	*Blackstone boulevard, west side,*	$864 00
175.	" " "	*Admiral street, at Douglas avenue,*	892 70
176.	" " "	*Angell street, from Wayland avenue to Butler,* . .	664 50
177.	" " "	*Broad, Stanwood, Niagara and Borden streets,* .	1,250 60
178.	" " "	*Dorchester avenue and Viola street,*	1,336 30

June 24th, contracts for the construction of the following sewers, were awarded and subsequently executed, namely:

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
198.	May 17, 1901,	*Bath street, from Orms to Chalkstone avenue,* . .	$642 80
202.	" " "	*Farmington and Silver Lake avenues,*	2,554 65
220.	June 7, "	*Bucklin street, from Peace to near Cromwell.* . .	1,525 50
221.	" " "	*Morris avenue and Cypress street,*	3,841 40
222.	" " "	*North Main street, from city line to Frost street,* . .	11,568 74
223.	" " "	*Ninigret avenue, McDonough street and Lenox avenue,*	1,159 40

During the quarter, the construction of the following sewer was completed, namely:

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No. of resolution.	Date of approval.		Date of completion.
177.	May 7, 1901,	*Broad, Stanwood, Niagara and Borden streets,*	June 21, 1901.

At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
349.	Sept. 12, 1900,	*Section 24, Moshassuck Division, Improved Sewerage System.*
349.	" " "	*Section 25, Moshassuck Division, Improved Sewerage System.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
388.	Oct. 5, 1900,	*Frontenac, University and Taber avenues.*
178.	May 7, 1901,	*Dorchester avenue and Viola street.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced June 30, 1901, namely:

No. of resolution.	Date of approval.	
349.	Sept. 12, 1900,	*Section 26, Moshassuck Division, Improved Sewerage System.*
174.	May 7, 1901,	*Blackstone boulevard, west side.*
175.	" " "	*Admiral street, at Douglas avenue.*
176.	" " "	*Angell street, from Wayland avenue to Butler.*
198.	" 17, "	*Bath street, from Orms to Chalkstone avenue.*
202.	" " "	*Farmington and Silver Lake avenues.*

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No. of resolution.	Date of approval.	
220.	June 7, 1901,	*Bucklin street, from Peace to near Cromwell.*
221.	" " "	*Morris avenue and Cypress street.*
222.	" " "	*North Main street, from city line to Frost street.*
223.	" " "	*Ninigret avenue, McDonough street and Lenox avenue.*

The amount of bills approved on account of sewers from April 1 to June 30, 1901, inclusive, was as follows:

FOR CONSTRUCTION.

Regular appropriation	$12,213 22	
Improved sewerage appropriation	27,458 11	
		$39,671 33

Charged as follows:

Material	$9,099 82
Contract reservations	1,012 00
Additional catch basins	338 94
Sundries	333 94
Testing cement	286 75
Tools	18 15
Sewer in Broad, Stanwood, Niagara and Borden streets	1,561 04
Sewer in Dorchester avenue and Viola street	466 42
Sewer in Frontenac, University and Taber avenues	2,273 62
Chemical and laboratory buildings — to erect	742 61
Machinery for sludge press house	1,108 34
Salaries of assistant engineers	491 00
Sewage sludge filter presses	34
Sludge press house — to build	921 40
Sewer in Moshassuck Division, Section 24	13,377 41
Sewer in Moshassuck Division, Section 25	7,066 30
Sewage precipitation tanks — to build	573 25
	$39,671 33

For maintenance, ... $18,814 38

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Classified as follows:

Cleaning basins and sewers	$4,704 40
Repairing basins and sewers	2,328 35
Sewer in sidewalk of central fire station, Exchange place — to build	1,755 79
Sundries	1,449 19
Cleaning and repairing old drains	910 42
Inspection of connections	690 33
Salary — superintendent	442 00
Tools	394 16
Barn expenses	328 55
Horses, wagons, harnesses, etc	35 87
Cleaning private connections	35 00
Office expenses	28 85
Filling cisterns, etc	12 00

ERNEST STREET STATION.

Cleaning and repairing pumps	$907 58
Engineers	824 62
Coal and wood	759 23
Cleaning screens	626 76
Firemen	432 19
Supplies	272 57
Care of grounds	126 30
Lights	88 61
Repairs on buildings	32 91
Care of buildings	7 01
Repairs on engines	4 00

SEWAGE PRECIPITATION TANKS.

Supplies for chemical house	$439 90
Care of grounds	416 06
Chemist	204 29
Care of boilers	182 78
Watchman	182 72
Miscellaneous work	125 25
Miscellaneous supplies	52 20
Supplies for laboratory	14 49
	$18,814 38

The *net* expenditure for construction of sewers to June 30, 1901, inclusive, was $6,866,805 11

The *net* expenditure for maintenance of sewers to June 30, 1901, inclusive, was $761,310 11

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Bills deposited with the city treasurer for collection from April 1 to June 30, 1901, inclusive, amounted to . . . $1,463 48

As follows:

Miscellaneous work	$920 21
For account of sewer in Exchange place	405 00
Cleaning private connections	44 00
Filling cisterns	13 15
Old oil barrels	3 60
Sewer material	32 82
Laying drains to curb	27 10
Car tickets	17 00
Testing cement	60
	$1,463 48

During the quarter coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . $1,491 03

As follows:

Miscellaneous work	$920 21
For account of sewer in Exchange place	405 00
Cleaning private connections	58 25
Filling cisterns, etc	43 45
Old oil barrels	3 60
Sewer material	32 82
Laying drains to curb	27 10
Testing cement	60
	$1,491 03

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HIGHWAYS.

Three permits to open streets were issued during the quarter.

April 5th, the proposal of Rhode Island Granite Company to furnish and deliver 50,000 granite paving blocks, at $1.25 per square yard, was accepted.

May 13th, the offer of Crabtree & Havey to furnish and deliver 20,000 lineal feet of straight granite curbing at fifty cents per lineal foot, was accepted.

June 11th, statements of the cost of concreting sidewalks in sundry streets, with ten per centum added to cover the cost of assessing and collecting, were certified to the assessors of taxes, amounting to the sum of $1,017 80.

During the quarter the following work was completed:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
Oct. 18, 1900,	*Danforth street, from Smith to Vale.*
" " "	*Ontario street, from Broad to Hamilton.*

Take Possession and Put Portion in Good Condition.

March 21, 1901,	*Allens avenue, from Public street to Swan.*
April 18, "	*Allens avenue, from Ernest street to New York avenue.*

To Take Possession.

June 20, 1901,	*Selkirk street, from Cemetery to Smithfield avenue.*

The following work was in progress June 30, 1901, namely:

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SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
April 18, 1901,	*Elmgrove avenue, west side, from Hazard to Doyle.*
" " "	*Taber avenue, from Frontenac to Irving.*
May 16, "	*Lloyd avenue, from Arlington to Blackstone boulevard.*
" " "	*University avenue, from Arlington to Elmgrove.*

TO GRADE AND REPAIR, WHEN ABUTTING OWNERS CURB AND PAVE GUTTERS.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

No. of resolution.	Date of approval.	
149.	April 25, 1900,	*Elmgrove avenue, east side, from President to Doyle, and west side, from President to Hazard.*

The following work, ordered by the board of aldermen and city council, had not commenced June 30, 1901, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
Sept. 20, 1900,	*Perkins street, from Pearl to A.*
Oct. 18, "	*Saunders street, from Lester to Perkins.*
April 18, 1901,	*Angell street, from Grand avenue to Blackstone park.*
" " "	*Swiss street, from Knight to Ridge.*
May 16, "	*Douglas avenue, from Chad Brown street to Admiral.*
" " "	*Borden street, from Plain to Beacon avenue.*
" " "	*Olney street, from Hope to Morris avenue.*
" " "	*Arlington avenue, from Lloyd to Olney street.*

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Date of order.	
May 16, 1901,	*Niagara street, from Stanwood to Congress avenue.*
" " "	*Stanwood street, from Broad to Niagara.*
" " "	*Alger avenue, from Carlisle street to Whitney.*
" " "	*Lowell avenue, from Hartford to Plainfield street.*
June 20, "	*Roosevelt street, from Webster avenue, to Laurel Hill.*
" " "	*Priscilla avenue, from Sterling to Union.*
" " "	*Webster avenue, from Laban street to Eastwood avenue.*

Bills approved on account of highways from April 1 to June 30, 1901, inclusive, amounted to:

Regular appropriation	$107,933 86	
Special appropriation	1 70	
		$107,935 56

Classified as follows:

Repairs on unpaved streets	$21,847 64	
Crushed stone — material and labor	21,636 89	
Cleaning streets	18,282 48	
Stone — paving and crosswalk	10,319 74	
Repairs on paved streets	6,770 68	
Blacksmith and wheelwright shop	2,429 80	
Repairs on stone crushers	2,120 88	
Barn expenses	2,106 36	
Tools, implements, etc	1,819 77	
Labor on material	951 78	
Steam rollers — repairs and supplies	770 22	
Salary, superintendent	442 00	
Building driveways, etc	308 06	
Horses, wagons, harnesses, etc	220 81	
Watering streets	168 18	
Watchman at city yard	156 00	
Sundries	136 76	
Office expenses, city yard	103 13	
Fencing streets, material and labor	97 30	
Car fares	25 00	
Repairs on buildings, highway yard	6 15	
		$90,719 63
Amount carried forward		$90,719 63

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Amount brought forward.....		$90,719 63

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Borden street, from Plain to Beacon avenue.....	$220 70	
Danforth street, from Smith to Vale.....	955 28	
Elmgrove avenue, from Hazard to Doyle.....	83 30	
Lloyd avenue, from Arlington to Blackstone boulevard.....	2,465 40	
Ontario street, from Broad to Hamilton.....	1,286 08	
Swiss street, from Knight to Ridge.....	71 92	
Taber avenue, from Frontenac to Irving.....	553 94	
University avenue, from Arlington to Elmgrove....	847 18	
		6,483 80

Take Possession.

Allens avenue, from Ernest street to New York avenue.....	$2,407 94	
Allens avenue, from Public street to Swan.....	2,671 79	
		5,079 73

Grade and Repair.

Elmgrove avenue, east side, from President to Doyle, and on west side, from President to Hazard....		5,652 40
		$107,935 36

Bills deposited with the city treasurer for collection from April 1 to June 30, 1901, inclusive, amounted to $1,858 90

As follows:

Blacksmith and harness work for other departments.....	$508 02
Labor and material.....	504 64
Boarding horses for other departments.....	362 85
Street sweepings.....	332 25
Manure from barn.....	74 00
Use of water cart.....	71 14
Old oil barrels.....	6 00
	$1,858 90

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $1,852 42

As follows:

Labor and material	$536 25
Blacksmith and harness work for other departments	508 02
Street sweepings	365 30
Boarding horses for other departments	362 85
Manure from barn	74 00
Old oil barrels	6 00
	$1,852 42

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from April 1 to June 30, 1901, inclusive, amounted to $9,899 84

Charged as follows:

Granite curbing	$7,816 09
Concreting sidewalks	1,375 09
Repairing sidewalks and gutters	708 66
	$9,899 84

Bills deposited with the city treasurer for collection from April 1 to June 30, 1901, inclusive, amounted to . . . $225 49

As follows:

Curbing bills	$212 36
Discharging cargoes at city wharf	13 13
	$225 49

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During the quarter coupons from bills collected have been returned by the city treasurer and receipted for to the amount of . $2,598 87

As follows:

Curbing bills	$2,585 74	
Discharging cargoes at city wharf	13 13	
	$2,598 87	

CITY ENGINEER.

Bills approved on account of the city engineer's department from April 1 to June 30, 1901, inclusive, amounted to . $11,796 70

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,379 94
Salaries of clerks	789 75
Supplies — drawing material, etc.	258 98
Car fares	205 15
Instruments and repairs	23 55
Meteorological instruments and repairs	12 32
Sundries	2 01
	$11,796 70

BRIDGES.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls, between Burnside and Promenade street bridges.*

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Bills approved on account of bridges from April 1 to June 30, 1901, inclusive, amounted to $8,180 12

Charged as follows:

Acorn street bridge	$1 49
Barn expenses	82 80
Branch avenue culvert	133 73
Building at city yard	42
Car fares	50 00
Charles street railroad bridge	13 35
Crawford street bridge	686 92
Exchange bridge	5 91
Gaspee street bridge	481 91
Hawkins street bridge	2,460 26
Horses, wagons, harnesses, etc	4 20
Lumber, hardware, etc	568 97
Park street bridge	3 15
Point street bridge	839 27
Red bridge	99 04
Rent of keeper's house, Washington bridge	30 00
Salaries — Point street bridge	978 25
Salaries — Red bridge	513 25
Salaries — Washington bridge	483 63
Sundries	75 53
Tools	178 80
Washington bridge	449 02
Washington row bridge	1 75
Weybosset bridge	38 47
	$8,180 12

Bills deposited for collection from April 1 to June 30, 1901, inclusive (for old lumber sold), amounted to $2 00

During the quarter coupons from bills collected (for old lumber sold), have been returned by the city treasurer and receipted for to the amount of $2 00

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PUBLIC LIGHTS.

Bills approved on account of the public lights from April 1 to June 30, 1901, inclusive, amounted to $72,521 28

Charged as follows:

Arc lights	$55,224 11
Incandescent lights	9,654 01
Welsbach lights	5,870 00
Gasolene lights	1,087 21
Salaries	494 00
Barn expenses	81 97
Gas for street lights	52 92
Setting and removing gas posts	47 06
Car fares	10 00
	$72,521 28

Bills deposited with the city treasurer for collection from April 1 to June 30, 1901, inclusive, amounted to $107 83

As follows:

Gas posts and lanterns	$101 83
Setting and removing gas posts	6 00
	$107 83

During the quarter coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $107 83

As follows:

Gas posts and lanterns	$101 83
Setting and repairing gas posts	6 00
	$107 83

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PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from April 1 to June 30, 1901, inclusive, amounted to . . . $5,202 91

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,076 07
Office supplies	201 84
	$5,202 91

CONTINGENCIES.

Bills approved for account of inspection of electric wires from April 1 to June 30, 1901, inclusive, have been paid from the appropriation for contingencies to the amount of $4 80

ROBERT E. SMITH,

Commissioner.

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SEVENTY-FIFTH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING SEPTEMBER 30, 1904.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
24 Washington Street.
1904.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., Oct. 1, 1901.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-fifth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending September 30, 1901:

WATER WORKS.

The average daily consumption of water during the quarter was 11,627,574 gallons.

Water pipes were laid during the quarter as follows:

12-INCH.	
In Chalkstone avenue	2,040.73 feet.
8-INCH.	
In Angell and Olney streets; Arlington and Laurel avenues; in Narragansett boulevard; Prospect and Rolfe streets; and in Laurel Hill avenue, in the town of Cranston	1,882.23 feet.
6-inch.	
In Augusta, Althea, Ceres, Crandall, Duke, Gaylord, Grape, Ham and Seamans streets; Arlington, Alumni, Cole, Edison, Everett, Hobart, Humboldt, Lorraine, Lloyd, President, Slater, Wayland, Wisdom and University avenues; in Northup and Potter streets; Fort and Linwood avenues, in the town of Cranston	7,015.56 feet.
Total	10,938.52 feet.

or, 2.072 + miles.

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Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	98,145.47 feet.
10-inch	15,057.14 feet.
8-inch	274,787.62 feet.
6-inch	1,190,740.51 feet.
Total	1,737,612.87 feet.

or, 329.093 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Six fire hydrants have been set during the quarter, one in each of the following locations:

Admiral street, north side, on range of east building line of Grape street.

Arlington avenue, east side, southeast corner of Laurel avenue.

Chalkstone avenue, north side, 136 feet west of west building line of Stafford street.

Chalkstone avenue, north side, front of Obadiah Brown's house (near Manton).

Kay street, north side, 13 feet west of 6-inch gate, or 16 feet west of fence at end of street.

Viola street, northeast corner of Dorchester avenue.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now nineteen hundred and two — eighteen hundred and sixteen flush, and eighty-six post.

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The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter two hundred and seventy-one water meters were set, of which number sixty-six were to replace other meters. The use of three meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,511	514	123	13	6	.....	.....	.....	3,167
Ball & Fitts, rotary	.....	.....	6	7	.....	2	1	.....	16
Crown	8,734	937	281	129	30	21	18	.....	10,150
Empire	565	92	46	37	9	.....	1	.....	750
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	10	24	13	3	50
Thomson	3,538	423	76	54	21	7	7	2	4,128
Trident	52	.....	1	.....	.....	.....	.....	.....	53
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	15,401	1,967	534	240	77	54	40	5	18,318

Three plumbers' licenses were issued during the quarter, making the total number one hundred and twenty-seven, all of which expire December 31, 1901.

Seven hundred and twenty-four permits to do plumbing work were issued during the quarter.

Two hundred and eight applications for water were made during the quarter, making the total number September 30, 1901, twenty-four thousand seven hundred and twenty-one.

The number of new service stops opened during the quarter was two hundred and thirty-one.

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The total number of service stops opened to September 30, 1901, inclusive, was twenty-four thousand and twenty-one. The number in actual use September 30, 1901, was twenty-two thousand one hundred and eighty-three.

The amount of bills approved on account of water works from July 1 to September 30, 1901, inclusive, was $27,869.67.

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$3,370 54	
Engineers	681 67	
Sundries	629 91	
Firemen	533 70	
Superintendence	305 57	
Care of grounds	196 01	
Worthington high-duty pumping engine	100 01	
Oil, waste and packing	91 64	
Labor on fuel	70 31	
Barn expenses	62 70	
Corliss pumping engine and house	39 97	
Repairs on boilers	30 59	
Lights	23 42	
Real estate	7 18	
		$6,143 22

SOCKANOSSET RESERVOIR.

Watchman	$186 00	
Sundries	42 98	
		228 98

HOPE PUMPING STATION.

Firemen	$535 20	
Holly pumping engine	311 41	
Engineers	305 57	
Lights	76 02	
Sundries	17 15	
Oil, waste and packing	16 84	
		1,262 19

HOPE RESERVOIR.

Watchman	$209 25	
Sundries	81 82	
		291 07
Amount carried forward		$7,925 46

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Amount brought forward		$7,925 46
Fruit Hill Reservoir.		
Sundries	$407 13	
Watchman	209 25	
		616 38
Meter Department.		
Water meters	$2,341 31	
Setting and repairing meters	1,409 21	
		3,750 52
Pipe Line and Service Stops.		
Repairs	$3,908 07	
Superintendence — salaries	868 15	
		4,776 22
Pipe Yard.		
Laying water pipe	$4,119 96	
Laying service pipe	1,269 29	
Stop valves	785 00	
Special castings	607 95	
Taps and stops	428 04	
Labor on and carting pipe	174 40	
Tools	120 22	
Pipe yard, office expenses	5 01	
		7,509 87
Miscellaneous.		
Clerks' and inspectors' salaries	$1,562 91	
Barn expenses	582 63	
Prevention of defilement of the Pawtuxet	549 99	
Horses, wagons, harnesses, etc	273 31	
Telephone lines	137 50	
Analyses of water	93 00	
Car fares	50 00	
Real estate in Lincoln	33 75	
Sundries	8 13	
		3,291 22
		$27,869 67

The total amount of expenditures to September 30, 1901, inclusive, was . $9,131,545 92

The *net* expenditure for construction and extension to September 30, 1901, inclusive, was	$6,470,093 35
The *net* expenditure for maintenance from July 1 to September 30, 1901, inclusive, was	$18,499 33
The *net* expenditure for maintenance to September 30, 1901, inclusive, was	$1,698,697 85

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The value of the water works system, January 1, 1901, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	135,157 13	
Sockanosset, Hope and Fruit Hill reservoirs	729,080 13	
Main lines and distribution pipes	2,725,528 92	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	28,969 19	
		$3,975,404 37

Bills deposited with the city treasurer for collection from July 1 to September 30, 1901, inclusive, amounted to . . $75,052 08

As follows:

Water	$67,434 64
Water meters	4,501 50
Setting and repairing meters	1,659 80
Labor and material, laying services, etc	644 89
Repairs on pipe line	626 00
Rent of real estate	75 50
Loam from land at Pawtuxet	66 75
Penalties	28 00
Permanently closing service stops	15 00
	$75,052 08

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $72,575 65

As follows:

Water	$63,175 31
Water meters	4,443 75
Labor and material, laying services, etc	2,917 64
Setting and repairing meters	1,851 70
Rent of real estate	127 25
Penalties	30 00
Permanently closing service stops	15 00
Loam from land at Pawtuxet	15 00
	$72,575 65

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The amount of bills approved on account of water works for the fiscal year ending September 30, 1901, inclusive, was . . $135,995 91

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$11,219 55	
Sundries	2,659 76	
Engineers	2,274 46	
Firemen	1,860 95	
Superintendence	1,202 57	
Care of grounds	885 63	
Repairs on boilers	560 52	
Worthington high-duty pumping engine	446 33	
Oil, waste and packing	289 48	
Labor on fuel	272 86	
Barn expenses	197 56	
Real estate	82 23	
Corliss pumping engine and house	80 77	
Cornish engine house	69 59	
Lights	30 35	
Cornish pumping engine	75	
		$22,133 36

SOCKANOSSET RESERVOIR.

Watchman	$730 00	
Sundries	454 36	
		1,184 36

HOPE PUMPING STATION.

Coal and wood	$2,287 00	
Firemen	1,719 60	
Engineers	1,202 57	
Sundries	364 84	
Holly pumping engine	340 62	
Lights	278 25	
Oil, waste and packing	28 84	
Repairs on boilers	28 66	
Care of grounds	27 00	
		6,277 38

HOPE RESERVOIR.

Sundries	$1,199 21	
Watchman	823 50	
		2,022 71
Amount carried forward		$31,617 81

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Amount brought forward		$31,617 81
Fruit Hill Reservoir.		
Sundries	$1,844 52	
Watchman	821 25	
		2,665 77
Meter Department.		
Water meters	$12,802 65	
Setting and repairing meters	5,423 65	
		18,226 30
Pipe Line and Service Stops.		
Repairs	$14,620 99	
Superintendence — salaries	3,417 80	
		18,038 79
Pipe Yard.		
Cast iron water pipe	$13,647 42	
Laying water pipe	11,646 67	
Laying service pipe	4,211 61	
Fire hydrants, boxes and covers	3,193 19	
Special castings	2,873 23	
Stop valves	2,671 27	
Service pipe	2,552 53	
Pig lead and tin	1,676 75	
Taps and stops	1,356 44	
Labor on and carting pipe	711 10	
Tools	617 89	
Wharf salaries	214 50	
Pipe yard, office expenses	126 78	
Patterns for special castings	63 03	
Repairs on pipe yard buildings	17 16	
		45,579 57
Miscellaneous.		
Town of Cranston, tax	$7,077 69	
Clerks' and inspectors' salaries	6,142 87	
Barn expenses	2,331 86	
Prevention of defilement of the Pawtuxet	2,199 96	
Horses, wagons, harnesses, etc	703 31	
Town of North Providence, tax	400 00	
Analyses of water	363 00	
Car fares	217 00	
Telephone lines	137 96	
Sundries	92 14	
Real estate at Pawtuxet	76 50	
Public drinking fountains and troughs	64 13	
Town of Lincoln, tax	61 25	
		19,867 67
		$135,995 91

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SEWERS.

During the quarter ending September 30, 1901, four hundred and ten permits were issued to drain layers — two hundred and thirty-one for new work and one hundred and seventy-nine for extension and repairs of drains.

Four drain layers' licenses were issued during the quarter, making the total number one hundred and forty-five, all of which expire December 31, 1901.

During the quarter assessments for the cost of constructing sewers were certified to the city treasurer as follows:

Hamilton, Irving and Melrose streets.....	$420 00

The proposal of Follett Brothers, of Adams, Mass., to furnish and deliver lime in bulk, in Providence, for the sewerage works at Field's Point, for the sum of $6.70 per ton, was accepted.

September 10th, proposals of Charles S. Bush Company and Starkweather & Williams Company were accepted for each to furnish five carloads of copperas in bulk, for the sewerage tanks at Field's Point, for the sum of thirty-one cents per hundred pounds, delivered in Providence.

August 2d, a contract for the construction of the following sewer was awarded and subsequently executed, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

To Frederick E. Shaw.

No. of resolution.	Date of approval.	
291.	July 26, 1901,	*From Valley street to the Woonasquatucket river, west of the Rhode Island Locomotive Works.*

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During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
349.	Sept. 12, 1900,	*Section 24, Moshassuck Division, Improved Sewerage System,*	Sept. 14, 1901.
388.	Oct. 5, "	*Frontenac, University and Taber avenues,*	July 24, 1901.
174.	May 7, 1901,	*Blackstone boulevard, west side,* . .	Sept. 18, 1901.
175.	" " "	*Admiral street, at Douglas avenue,* . .	Sept. 4, 1901.
176.	" " "	*Angell street, from Wayland avenue to Butler,*	Aug, 24, 1901.
178.	" " "	*Dorchester avenue and Viola street,* . .	July 23, 1901.
198.	" 17, "	*Bath street, from Orms to Chalkstone avenue,*	Sept. 4, 1901.
220.	June 7, "	*Bucklin street, from Peace to near Cromwell,*	Sept. 27, 1901.
223.	" " "	*Ninigret avenue, McDonough street and Lenox avenue,* . .	Aug. 10, 1901.

At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
349.	Sept. 12, 1900,	*Section 25, Moshassuck Division, Improved Sewerage System.*
283.	July 3, 1901,	*Selkirk street, from Cemetery to Smithfield avenue.*

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No. of resolution.	Date of approval.	
291.	July 26, 1901,	*From Valley street to Woonasquatucket river, west of the Rhode Island Locomotive Works.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
202.	May 17, 1901,	*Farmington and Silver Lake avenues.*
221.	June 7, "	*Morris avenue and Cypress street.*
222.	" " "	*North Main street, from city line to Frost street.*

Work upon the following sewer, completing the work ordered by the city council, had not commenced September 30, 1901, namely:

No. of resolution.	Date of approval.	
349.	September 12, 1900,	*Section 26, Moshassuck Division, Improved Sewerage System.*

The amount of bills approved on account of sewers from July 1 to September 30, 1901, inclusive, was as follows:

FOR CONSTRUCTION.

Regular appropriation	$19,512 30	
Improved sewerage appropriation	35,808 12	
		$55,320 42

Charged as follows:

Material	$6,860 97
Additional catch basins	560 34
Testing cement	286 75
Sundries	180 75
Tools	34 87
Sewer in Admiral street at Douglas avenue	3,922 65
Amount carried forward	$11,846 33

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Amount brought forward	$11,846 33
Sewer in Angell street, from Wayland avenue to Butler	989 74
Sewer in Bath street, from Orms to Chalkstone avenue	900 11
Sewer in Blackstone boulevard, west side	2,715 31
Sewer in Broad, Stanwood, Niagara and Borden streets	15 00
Sewer in Bucklin street, from Peace to near Cromwell	110 04
Sewer in Dorchester avenue and Viola street	2,090 13
Sewer in Farmington and Silver Lake avenues	202 52
Sewer in Frontenac, University and Taber avenues	1,649 39
Sewer in Morris avenue and Cypress street	105 46
Sewer in Ninigret avenue, McDonough street and Lenox avenue	1,469 82
Sewer in North Main street, from city line to Frost street	30 30
Chemical and laboratory buildings — to erect	132 36
Installation of electric lights and sewage precipitation tanks	600 00
Machinery for sludge press house	356 61
Salaries of assistant engineers	398 57
Sundries, improved sewerage system	741 81
Sewage sludge filter presses	2,138 40
Sewage precipitation tanks — to build	333 99
Sewer in Moshassuck Division, Section 24	18,480 45
Sewer in Moshassuck Division, Section 25	8,462 00
Sewer from Valley street to Woonasquatucket river	1,225 80
Sludge press house — to build	326 28
	$55,320 42

For maintenance, ... $22,453 78

Classified as follows:

Cleaning basins and sewers	$5,331 29
Repairing basins and sewers	3,339 52
Sundries	1,913 66
Cleaning and repairing old drains	1,468 59
Tools	1,088 46
Horses, wagons, harnesses, etc	807 74
Inspection of connections	706 59
Salary — superintendent	451 71
Barn expenses	394 37
Amount carried forward	$15,501 93

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Amount brought forward	$15,501 93
Office expenses	131 85
Cleaning private connections	41 72
Telephone lines	35 50
Filling cisterns, etc	14 50
Repairs on buildings, sewer maintenance yard	9 00
Sewer in sidewalk of central fire station, Exchange place — to build	3 50
Repairs on gate houses	1 38

ERNEST STREET STATION.

Coal and wood	919 53
Engineers	851 19
Cleaning screens	649 52
Firemen	458 38
Cleaning and repairing pumps	385 90
Care of grounds	115 52
Supplies	83 46
Lights	67 00
Repairs on boilers	28 54
Care of buildings	9 78
Repairs on buildings	5 42
Repairs on engines	3 47

SEWAGE PRECIPITATION TANKS.

Supplies for chemical house	1,312 19
Labor in sludge disposal	444 29
Labor on sewage precipitation	404 43
Chemist	348 00
Watchman	235 86
Miscellaneous work	105 98
Repairs on machinery	88 36
Care of boilers	77 87
Miscellaneous supplies	73 81
Supplies for laboratory	23 33
Care of grounds	20 25
Repairs on tanks	2 32
	$22,453 78

The *net* expenditure for construction of sewers to September 30, 1901, inclusive, was $6,950,775 38

The *net* expenditure for maintenance of sewers to September 30, 1901, inclusive, was $789,629 91

Bills deposited with the city treasurer for collection from July 1 to September 30, 1901, inclusive, amounted to . . $1,758 39

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As follows:

Miscellaneous work	$1,643 35
Pumping out cellars, etc	45 30
Cleaning private connections	34 25
Old manhole frame and cover	3 40
Laying drains to curbstone	29 09
Testing cement	3 00
	$1,758 39

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of . $1,530 99

As follows:

Miscellaneous work	$1,408 70
Pumping out cellars, etc	36 30
Cleaning private connections	33 50
Old manhole frame and cover	3 40
Laying drains to curbstone	29 09
Car tickets	17 00
Testing cement	3 00
	$1,530 99

The amount of bills approved on account of sewers for the fiscal year ending September 30, 1901, inclusive, was:

FOR CONSTRUCTION.

Regular appropriation	$73,242 50	
Improved sewerage appropriation	125,999 95	
		$199,242 45

Charged as follows:

Material	$31,171 35
Contract reservations	3,219 00
Testing cement	1,152 30
Additional catch basins	1,144 65
Sundries	872 72
Tools	64 14
Sewer in Admiral and Berkshire streets	6,487 67
Amount carried forward	$44,111 83

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Amount brought forward	$44,111 83
Sewer in Admiral street at Douglas avenue	3,922 65
Sewer in Admiral street, from Douglas avenue to Berkshire street	4,650 07
Sewer in Alger and Pacific avenues	307 43
Sewer in Angell street, from Wayland avenue to Butler	989 74
Sewer in Bath street, from Orms to Chalkstone avenue	900 11
Sewer in Blackstone boulevard, west side	2,715 31
Sewer in Broad, Stanwood, Niagara and Borden streets	1,576 04
Sewer in Bucklin street, from Peace to near Cromwell	110 04
Sewer in Cemetery and Frost streets	1,217 94
Sewer in Charles and Printery streets	533 39
Sewer in Dorchester avenue and Viola street	2,556 55
Sewer in Dudley street, from Plain to Eddy	3,288 97
Sewer in Durfee street, from 78 feet south of Hammond to Harrison	333 14
Sewer in East George street, from Governor to Ives	864 35
Sewer in East Transit street, from Ives to tide water	742 55
Sewer in Ellery street, from Wendell to Union avenue	842 96
Sewer in Farmington and Silver Lake avenues	202 52
Sewer in Frontenac, University and Taber avenues	6,846 73
Sewer in Morris avenue and Cypress street	105 46
Sewer in Ninigret avenue, McDonough street and Lenox avenue	1,469 82
Sewer in North Main street, from city line to Frost street	30 30
Sewer in Ontario street, from Broad to Hamilton	837 68
Sewer in Pond street and an alley way from Fenner to Winslow	570 35
Sewer in Priscilla avenue, from Sterling to Union	1,596 22
Sewer in Swiss street, from near Knight to Ridge	784 18
Sewer in Winchester place, from Melrose street to Elmwood avenue	836 55
Chemical and laboratory buildings — to erect	7,087 18
Installation of electric lights at sewage precipitation tanks	600 00
Machinery for sludge press house	7,347 81
Salaries of assistant engineers	2,471 07
Sundries, improved sewerage system	897 35
Sewage sludge filter presses	6,306 38
Sewage precipitation tanks — to build	11,050 52
Sewer in Moshassuck Division, Section 24	40,596 36
Sewer in Moshassuck Division, Section 25	30,638 73
Sewer from Valley street to the Woonasquatucket river	1,225 80
Sludge press house — to build	8,108 37
	$199,242 45

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For maintenance, ... $72,429 54

Classified as follows:

Cleaning basins and sewers	$19,514 49
Repairing basins and sewers	11,174 95
Sundries	4,637 92
Cleaning and repairing old drains	4,291 32
Inspection of connections	2,753 08
Tools	2,252 51
Salary — superintendent	1,777 71
Sewer in sidewalk of central fire station, Exchange place — to build	1,774 29
Barn expenses	1,654 03
Horses, wagons, harnesses, etc	1,561 01
Use of water	300 00
Office expenses	265 21
Cleaning private connections	209 52
Repairs on gate houses	96 75
Filling cisterns, etc	64 00
Telephone lines	35 50
Repairs on buildings, sewer maintenance yard	26 85
Ernest Street Station.	
Coal and wood	3,574 69
Engineers	3,342 86
Cleaning screens	2,571 64
Firemen	1,772 96
Cleaning and repairing pumps	1,722 95
Supplies	537 12
Care of grounds	323 06
Lights	258 99
Repairs on boilers	242 81
Repairs on engines	79 49
Care of buildings	55 78
Repairs on buildings	40 33
Sewage Precipitation Tanks.	
Supplies for chemical house	1,752 65
Watchman	581 33
Chemist	552 29
Labor in sludge disposal	444 29
Care of grounds	436 31
Care of boilers	423 40
Labor on sewage precipitation	404 43
Miscellaneous supplies	276 24
Miscellaneous work	231 23
Fuel	217 55
Supplies for laboratory	107 32
Repairs on machinery	88 36
Repairs on tanks	2 32
	$72,429 54

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HIGHWAYS.

Two permits to open streets were issued during the quarter.

During the quarter, statements of the cost of concreting sidewalks in sundry streets, with ten per centum added to cover the cost of assessing and collecting, were certified to the assessors of taxes, amounting to the sum of $66.37.

July 29th, curbing bills were certified to the assessors of taxes for collecting, amounting to $8,655.05.

During the quarter, the following work was completed:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
Sept. 20, 1900,	*Perkins street, from Pearl to A.*
Oct. 18, "	*Saunders street, from Lester to Perkins.*
April 18, 1901,	*Angell street, from Grand avenue to Blackstone park.*
" " "	*Swiss street, from Knight to Ridge.*
" " "	*Elmgrove avenue, west side, from Hazard to Doyle.*
" " "	*Taber avenue, from Frontenac to Irving.*
May 16, "	*Lloyd avenue, from Arlington to Blackstone boulevard.*
" " "	*University avenue, from Arlington to Elmgrove.*
" " "	*Borden street, from Plain to Beacon avenue.*
" " "	*Olney street, from Hope to Morris avenue.*
" " "	*Arlington avenue, from Lloyd to Olney street.*
" " "	*Niagara street, from Stanwood to Congress avenue.*
" " "	*Stanwood street, from Broad to Niagara.*
" " "	*Alger avenue, from Carlisle street to Whitney.*
" " "	*Lowell avenue, from Hartford to Plainfield street.*
Aug. 5, "	*Humboldt avenue, from Irving to Elton street.*

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To Grade and Repair, when Abutting Owners Curb and Pave Gutters.

March 23, 1899, *Elmgrove avenue, from Irving to President.*

No. of resolution.	Date of approval.	
149.	April 25, 1900,	*Elmgrove avenue, east side, from President to Doyle, and west side, from President to Hazard.*

The following work was in progress September 30, 1901, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
June 20, 1901,	*Roosevelt street, from Webster avenue to Laurel Hill.*

The following work, ordered by the board of aldermen and city council, had not commenced September 30, 1901, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
May 16, 1901,	*Douglas avenue, from Chad Brown street to Admiral.*
June 20, "	*Priscilla avenue, from Sterling to Union.*
" " "	*Webster avenue, from Laban street to Eastwood avenue.*
Sept. 5, "	*Jewett street, from Valley about 540 feet easterly.*
" " "	*West Park street, from Valley about 800 feet easterly.*

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Bills approved on account of highways from July 1 to September 30, 1901, inclusive, amounted to:

Regular appropriation	$64,227 00	
Special appropriation	31,035 96	
Special credit appropriation	1,300 28	
		$96,563 24

Classified as follows:

Cleaning streets	$19,023 00	
Repairs on unpaved streets	16,509 01	
Repairs on paved streets	7,318 33	
Crushed stone — material and labor	2,686 48	
Barn expenses	2,546 62	
Blacksmith and wheelwright shop	2,257 57	
Tools, implements, etc	797 97	
Repairs on stone crushers	717 62	
Steam rollers — repairs and supplies	647 60	
Labor on material	471 45	
Salary of superintendent	451 71	
Building driveways, etc	371 61	
Watering streets	279 13	
Horses, wagons, harnesses, etc	201 48	
Watchman at city yard	159 43	
Sundries	105 74	
Car fares	25 00	
Office expenses, city yard	23 94	
Repairs on buildings, highway yard	22 30	
Fencing streets, material and labor	9 72	
Stone — paving and crosswalk	80	
		$54,626 51

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Alger avenue, from Carlisle street to Whitney	$1,915 27	
Angell street, from Grand avenue to Blackstone boulevard	1,777 72	
Arlington avenue, from Lloyd to Olney street	3,000 37	
Borden street, from Plain to Beacon avenue	1,368 96	
Danforth street, from Smith to Vale	842 26	
Elmgrove avenue, from Hazard to Doyle	293 13	
Humboldt avenue, from Irving to Elton street	1,000 35	
Lloyd avenue, from Arlington to Blackstone boulevard	8,600 64	
Lowell avenue, from Hartford to Plainfield street	4,316 96	
Amounts carried forward	$23,115 66	$54,626 51

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Amounts brought forward	$23,115 66	$54,626 51
Niagara street, from Stanwood to Congress avenue.	1,907 03	
Olney street, from Hope to Morris avenue	3,825 78	
Ontario street, from Broad to Hamilton	1,203 58	
Perkins street, from Pearl to A	1,004 23	
Priscilla avenue, from Sterling to Union	115 85	
Roosevelt street, from Webster avenue to Laurel Hill	755 76	
Saunders street, from Lester to Perkins	296 05	
Stanwood street, from Broad to Niagara	1,087 75	
Swiss street, from Knight to Ridge	1,342 47	
Taber avenue, from Frontenac to Irving	1,477 72	
University avenue, from Arlington to Elmgrove	2,193 01	
Webster avenue, from Laban street to Eastwood avenue	34 22	
		38,359 11

TAKE POSSESSION.

Allens avenue, from Ernest street to New York avenue	$59 11	
Allens avenue, from Public street to Swan	10 25	
		69 36

GRADE AND REPAIR.

Elmgrove avenue, east side, from President to Doyle, and on west side, from President to Hazard		3,508 26
		$96,563 24

Bills deposited with the city treasurer for collection from July 1 to September 30, 1901, inclusive, amounted to . . . $22,762 56

As follows:

Labor and material	$20,824 43
Blacksmith and harness work for other departments	884 88
Use of steam roller	293 35
Street sweepings	249 00
Boarding horses for other departments	245 49
Two dirt excavators	80 00
Manure from barn	74 00
Use of water cart	52 41
Discharging cargoes at city wharf	29 25
Removing trees	23 75
Old oil barrels	6 00
	$22,762 56

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During the quarter coupons from bills collected have been returned and receipted for to the amount of $14,540 77

As follows:

Labor and material	$13,356 58
Blacksmith and harness work for other departments	433 70
Street sweepings	253 00
Boarding horses for other departments	245 49
Two dirt excavators	80 00
Manure from barn	74 00
Use of steam roller	39 00
Discharging cargoes at city wharf	29 25
Removing trees	23 75
Old oil barrels	6 00
	$14,540 77

Bills approved on account of highways for the fiscal year ending September 30, 1901, inclusive, amounted to:

Regular appropriation	$301,518 41	
Special appropriation	32,537 41	
Special credit appropriation	4,320 33	
		$338,376 15

Classified as follows:

Crushed stone — material and labor	$62,792 39
Repairs on unpaved streets	61,035 41
Cleaning streets	59,807 31
Stone — paving and crosswalk	19,978 54
Repairs on paved streets	17,745 87
Barn expenses	10,699 28
Blacksmith and wheelwright shop	10,081 10
Steam rollers — repairs and supplies	4,648 67
Repairs on stone crushers	4,412 98
Tools, implements, etc	4,374 83
Labor on material	3,685 45
Removing snow and ice	1,840 87
Salary of superintendent	1,777 71
Horses, wagons, harnesses, etc	1,622 10
Amount carried forward	$264,502 51

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Amounts brought forward	$264,502 51	
Building driveways, etc	1,215 41	
Watchman at city yard	627 43	
Watering streets	492 31	
Sundries	377 54	
Office expenses, city yard	322 69	
Fencing streets, material and labor	137 45	
Repairs on buildings, highway yard	93 45	
Car fares	50 00	
		$267,818 79

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Adelaide avenue, from Elmwood to Reservoir	$637 79	
Alger avenue, from Carlisle street to Whitney	1,915 27	
Angell street, from Grand avenue to Blackstone boulevard	1,777 72	
Arlington avenue, from Lloyd to Olney street	3,000 37	
Berkshire street, from Admiral northerly to June	1,057 47	
Borden street, from Plain to Beacon avenue	1,589 66	
Calla street, from Broad to Eddy	703 98	
Danforth street, from Smith to Vale	2,221 57	
Dudley street, from Plain to Eddy	2,896 95	
Elmgrove avenue, from Hazard to Doyle	376 43	
Humboldt avenue, from Irving to Elton street	1,000 35	
Lloyd avenue, from Arlington to Blackstone boulevard	11,066 04	
Lowell avenue, from Hartford to Plainfield street	4,316 96	
Niagara street, from Stanwood to Congress avenue	1,907 03	
Olney street, from Hope to Morris avenue	3,825 78	
Ontario street, from Broad to Hamilton	2,489 66	
Pacific avenue, from Burrington street to Aquidneck	2,316 07	
Perkins street, from Pearl to A	1,004 23	
Priscilla avenue, from Sterling to Union	115 85	
Reynolds avenue, from Baxter street to Prairie ave.	1,633 31	
Roosevelt street, from Webster avenue to Laurel Hill	755 76	
Saunders street, from Lester to Perkins	296 05	
Stanwood street, from Broad to Niagara	1,087 75	
Swiss street, from Knight to Ridge	1,414 39	
Taber avenue, from Frontenac to Irving	2,031 66	
University avenue, from Arlington to Elmgrove	3,040 19	
Webster avenue, from Laban street to Eastwood avenue	34 22	
Winchester place, from Elmwood avenue to Melrose street	1,604 36	
		56,116 87
Amount carried forward		$323,935 66

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Amount brought forward		$323,935 66
TAKE POSSESSION.		
Allens avenue, from Ernest street to New York ave.	$2,467 05	
Allens avenue, from Public street to Swan	2,682 04	
		5,149 09
GRADE AND REPAIR.		
Elmgrove avenue, east side, from President to Doyle, and west side, from President to Hazard.		9,291 40
		$338,376 15

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from July 1 to September 30, 1901, inclusive, amounted to . . . $10,134 21

Charged as follows:

Granite curbing	$8,198 88
Concreting sidewalks	1,772 48
Repairing sidewalks and gutters	162 85
	$10,134 21

Bills deposited with the city treasurer for collection from July 1 to September 30, 1901, inclusive, amounted to . . . $621 62

As follows:

Curbing bills	$589 10
Discharging cargoes at city wharf	26 25
Concreting sidewalks	6 27
	$621 62

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of . $1,160 35

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As follows:

Curbing bills	$1,127 83
Discharging cargoes at city wharf	26 25
Concreting sidewalks	6 27
	$1,160 35

Bills approved on account of sidewalks and curbing for the fiscal year ending September 30, 1901, inclusive, amounted to $24,252 88

Charged as follows:

Granite curbing	$17,648 90
Concreting sidewalks	4,945 66
Repairing sidewalks and gutters	1,658 32
	$24,252 88

CITY ENGINEER.

Bills approved on account of the city engineer's department from July 1 to September 30, 1901, inclusive, amounted to $12,604 72

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	10,025 56
Salaries of clerks	807 10
Supplies — drawing material, etc.	399 93
Car fares	202 50
Instruments and repairs	32 45
Carriage hire	8 53
Telephone lines	2 50
Sundries	1 15
	$12,604 72

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Bills approved on account of the city engineer's department for the fiscal year ending September 30, 1901, inclusive, amounted to $47,700 80

Charged as follows:

Salary — city engineer	$4,500 00
Salaries of assistants	38,125 37
Salaries of clerks	3,176 35
Supplies — drawing material, etc	1,039 64
Car fares	614 90
Instruments and repairs	134 60
Sundries	67 09
Meteorological instruments and repairs	29 82
Carriage hire	10 53
Telephone lines	2 50
	$47,700 80

BRIDGES.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls, between Burnside and Promenade street bridges.*

Bills approved on account of bridges from July 1 to September 30, 1901, inclusive, amounted to $8,344 49

Charged as follows:

Acorn street bridge	$57 48
Atwells avenue bridge	60 30
Barn expenses	99 76
Branch avenue culvert	2,032 28
Building at city yard	21
Amount carried forward	$2,250 03

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Amount brought forward	$2,250 03
Burnside bridge	15 00
Charles street bridge	44 51
Crawford street bridge	466 60
Delaine bridge	56 32
Exchange bridge	3 60
Hawkins street bridge	1 65
Horses, wagons, harnesses, etc	21 27
Lumber, hardware, etc	197 86
Manton avenue bridge	19 50
Nash lane bridge	202 98
Point street bridge	441 58
Randall street bridge	8 00
Red bridge	930 36
Rent of keeper's house, Washington bridge	30 00
Salaries — Point street bridge	1,039 75
Salaries — Red bridge	596 04
Salaries — Washington bridge	601 61
Sundries	70 33
Telephone lines	2 50
Tools	61 20
Valley street bridge — north span	67 01
Valley street bridge — south span	55 28
Veazie street bridge	3 56
Wanskuck bridge	61 31
Washington bridge	1,070 83
Washington row bridge	7 60
Weybosset bridge	18 21
	$8,344 49

Bills deposited for collection from July 1, to September 30, 1901, inclusive, amounted to $92 77

As follows:

Work for Union Railroad Company on Red bridge.	$67 26
Repairs on Crawford street bridge	24 01
Old lumber	1 50
	$92 77

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $68 76

As follows:

Work for Union Railroad Company on Red bridge.	$67 26
Old lumber	1 50
	$68 76

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Bills approved on account of bridges for the fiscal year ending September 30, 1901, inclusive, amounted to $28,494 00

Charged as follows:

Acorn street bridge	$58 97
Atwells avenue bridge	1,585 30
Barn expenses	416 40
Branch avenue culvert	2,257 46
Building at city yard	13 31
Burnside bridge	25 11
Car fares	50 00
Charles street bridge	44 51
Charles street railroad bridge	13 35
Crawford street bridge	1,542 91
Delaine street bridge	56 32
Exchange bridge	39 44
Gaspee street bridge	481 91
Geneva bridge	2 70
Hawkins street bridge	2,762 14
Horses, wagons, harnesses, etc	63 78
Lumber, hardware, etc	2,933 85
Manton bridge	24 05
Manton avenue bridge	106 95
Nash lane bridge	202 98
Park street bridge	6 45
Point street bridge	1,759 01
Randall street bridge	18 50
Red bridge	1,803 03
Rent of keeper's house, Washington bridge	120 00
Salaries — Point street bridge	3,979 75
Salaries — Red bridge	2,161 15
Salaries — Washington bridge	2,087 67
Sundries	461 35
Telephone lines	2 50
Tools	537 42
Valley street bridge — north span	70 61
Valley street bridge — south span	56 48
Valley street culvert	28 45
Veazie street bridge	6 56
Wanskuck bridge	61 31
Washington bridge	2,409 95
Washington row bridge	43 82
West River street bridge	39 25
Weybosset bridge	159 30
	$28,494 00

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Bills approved and paid from the appropriation for rebuilding Weybosset bridge and river walls, during the fiscal year ending September 30, 1901, inclusive, amounted to $1,699 10

Charged as follows:

Exchange place and extension of Exchange street — to build	$1,699 01
Mill street bridge — to rebuild	09
	$1,699 10

PUBLIC LIGHTS.

Bills approved on account of the public lights from July 1 to September 30, 1901, inclusive, amounted to $73,712 40

Charged as follows:

Arc lights	$55,753 28
Incandescent lights	11,096 36
Welsbach lights	5,901 70
Salaries	521 96
Setting and removing gas posts	201 99
Barn expenses	99 06
Gas for street lights	56 70
Supplies for repairing posts and lanterns	53 54
Sundries	18 54
Horses, wagons, harnesses, etc	6 77
Telephone lines	2 50
	$73,712 40

Bills deposited with the city treasurer for collection from July 1 to September 30, 1901, inclusive, amounted to . . . $26 70

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As follows:

Setting and removing lamp posts	$14 20
Lamp posts, lanterns, frames, etc	12 50
	$26 70

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $19 20

As follows:

Lamp posts, lanterns, frames, etc	$12 50
Setting and removing lamp posts	6 70
	$19 20

Bills approved on account of the public lights for the fiscal year ending September 30, 1901, inclusive, amounted to . . $290,843 38

Charged as follows:

Arc lights	$221,459 58
Incandescent lights	25,014 66
Welsbach lights	17,478 63
Gasolene lights	16,925 66
Gas for street lights	5,224 17
Salaries	2,103 46
Automatic gas lighting	1,702 28
Barn expenses	414 60
Setting and removing gas posts	311 46
Horses, wagons, harnesses, etc	84 24
Supplies for repairing posts and lanterns	68 27
Car fares	30 00
Sundries	18 54
Tools	5 33
Telephone lines	2 50
	$290,843 38

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PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from July 1 to September 30, 1901, inclusive, amounted to . . . $5,234 17

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,111 60
Office supplies	195 67
Telephone lines	2 50
	$5,234 17

Bills approved on account of the public works office for the fiscal year ending September 30, 1901, inclusive, amounted to . $20,997 05

Charged as follows:

Salaries of commissioner and secretary	$7,700 00
Salaries of office assistants	12,552 98
Office supplies	741 57
Telephone lines	2 50
	$20,997 05

CONTINGENCIES.

Bills approved for account of inspection of electric wires for the fiscal year ending September 30, 1901, inclusive, have been paid from the appropriation for contingencies to the amount of $23 60

ROBERT E. SMITH,

Commissioner.

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CITY DOCUMENT. [No. 4.

SEVENTY-SIXTH

QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING DECEMBER 31, 1901.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
39 Washington Street.
1902.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., Jan. 1, 1902.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-sixth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending December 31, 1901:

WATER WORKS.

December 6th, the proposal of General Fire Extinguisher Company, to furnish 800 service box lock covers at 29 cents each was accepted.

December 13th, the proposal of Warren Foundry and Machine Company, of Phillipsburg, N. J., to furnish and deliver about 895 tons of cast-iron water pipe, from 4 inches to 12 inches in diameter, for the sum of $25.70 per ton of 2,240 pounds, was accepted, and a contract for same executed.

December 23d, proposals were received to furnish and deliver the following materials, and contracts for same were subsequently executed, namely:

John W. Lyons, for taps, stops and plugs	Amount	$1,185 50
John H. Macauley, for lead pipe, various sizes	"	2,481 60
Phillips Lead and Supply Co., for pig lead and pig tin	"	1,264 00

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December 27th, the proposal of The Darling Pump and Manufacturing Company, Limited, of Williamsport, Pa., to furnish and deliver flush fire hydrants and various sizes of water gates, was accepted and a contract subsequently executed. Amount $6,085.95.

December 30th, the proposal of Fuller Iron Works to furnish special castings for the water and sewer departments during the year 1902, was accepted and a contract subsequently executed. Estimated amount, $4,223.05.

The average daily consumption of water during the last quarter was 10,879,437 gallons, and the average daily consumption for the year 1901 was 10,734,700 gallons.

Water pipes were laid during the quarter as follows:

8-INCH.

In Gano and Oxford streets; Bellevue and President avenues; and in Pawtuxet avenue, in the town of Cranston..	2,439.42 feet.

6-inch.

In Bailey court; Balch, Bucklin, Butts, Crescent, Dorr, Elm, Ethan, Gano, Globe, Hanover, Holmes, Moore, Peace, Poe, Rosedale, Russell, Waverly, Whitmarsh and Woodman streets; Allens, Brandywine, Hobart, Miles, President and Princeton avenues; and in Laurens and Magnolia streets; Franklin, Harris and Villa avenues, in the town of Cranston.....	6,726.07 feet.
Total.....	9,165.49 feet.

or, 1.735 + miles.

Water pipes were removed or abandoned during the quarter as follows:

6-INCH.

From Borva and Oregon streets.....	1,003.07 feet.

or, .189 + miles.

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Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	98,145.47 feet.
10-inch	15,057.14 feet.
8-inch	277,227.04 feet.
6-inch	1,196,463.51 feet.
Total	1,745,775.29 feet.

or, 330.639 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Sixteen fire hydrants have been set during the quarter, one in each of the following locations:

Academy avenue, east side, 400 feet north of Chalkstone avenue.

Addison place, west side, on south building line of Amherst street.

Allens avenue, east side, forty-three feet north of range of north line of Sayles street.

Bucklin street, east side, five feet south of south building line of Whitmarsh street.

Butts street, south side, 954.5 feet east of east building line of Eddy street.

Butts street, south side, 417 feet east of east building line of Eddy street.

Covell street, west side, 215 feet north of Amherst street.

Cutting avenue, Cranston, southeast corner of Cranston street.

Globe street, north side, 852.5 feet east of east building line of Eddy street.

Home avenue, east side, 740 feet north of Chalkstone avenue.

Oxford street, north side, 3 feet west of west building line of Allens avenue.

Oxford street, north side, 115 feet west of west building line of Poe street.

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Poe street, east side, 2.5 feet north of north building line of O'Connell street.

Stokes street, west side, 5.5 feet north of north building line of Dike street.

Tuxedo avenue, east side, south corner of lane 400 feet south of Atwells avenue.

Whipple avenue, Cranston, northeast corner of Cranston street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now nineteen hundred and eighteen — eighteen hundred and thirty flush, and eighty-eight post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter three hundred and four water meters were set, of which number seventy-three were to replace other meters. The use of five meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1¼-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,457	499	123	13	6	.....	.....	.....	3,098
Ball & Fitts, rotary	.....	.....	6	7	.....	2	1	.....	16
Crown	8,847	962	288	129	32	21	19	.....	10,298
Empire	602	106	47	39	9	.....	1	.....	804
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	10	24	15	3	52
Thomson	3,629	423	76	54	21	7	7	2	4,219
Trident	52	.....	1	.....	.....	.....	.....	.....	53
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	15,588	1,991	542	242	79	54	43	5	18,544

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One plumber's license was issued during the quarter, making the total number one hundred and twenty-eight, all of which expire December 31, 1901.

Seven hundred and seventy-one permits to do plumbing work were issued during the quarter.

One hundred and fifty-nine applications for water were made during the quarter, making the total number December 31, 1901, twenty-four thousand eight hundred and eighty.

The number of new service stops opened during the quarter was one hundred and seventy-three.

The total number of service stops opened to December 31, 1901, inclusive, was twenty-four thousand one hundred and ninety-four. The number in actual use December 31, 1901, was twenty-two thousand one hundred and eighty-six.

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The following table shows the lengths, sizes, etc., of services laid during twenty-five years, ending December 31, 1901:

YEARS.	Length of Services in Feet.									Taps Used.						Stops Used.						Service Boxes Used.
	Sizes of Pipe.						Totals.	Trenching.	Paving.													
	½ inch.	¾ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.				⅜ in.	½ in.	⅝ in.	¾ in.	1 in.	To-tals.	⅜ in.	½ in.	⅝ in.	¾ in.	1 in.	To-tals.	
To Dec. 31, 1900	9,919.9	212,902.48	20,377.89	4,574.6	3,447.6	457.7	251,680.17	264,836.29	32,279.78	612	12,830	1,558	397	319	15,716	645	13,680	1,284	288	276	16,173	16,643
1901	.....	9,964.10	919.40	82.6	35.4	.....	10,601.50	11,147.	1,414.50	....	572	59	12	7	650	....	600	57	8	3	668	681
	9,919.9	222,866.58	21,297.29	4,657.2	3,483.	457.7	262,281.67	275,983.29	33,694.28	612	13,402	1,617	409	326	16,366	645	14,280	1,341	296	279	16,841	17,324

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The following table shows the lengths, sizes, etc., of services laid during the year ending December 31, 1901:

Months.	Lengths of Services in Feet.								Taps Used.					Stops Used.					Service Boxes Used.
	Sizes of Pipe.					Totals.	Trenching.	Paving.											
	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.				½ in.	⅝ in.	¾ in.	1 in.	Totals.	½ in.	⅝ in.	¾ in.	1 in.	Totals.	
January	270.9	25.2	8.2	.....	.....	304.3	317.5	39.	12	1	1	....	14	12	1	1	....	14	14
February	8.2	.....	.....	.....	.....	8.2	9.	.....	1	....	....	....	1	1	....	....	....	1	1
March	411.2	42.6	.....	.....	.....	453.8	478.	54.5	25	3	1	....	29	26	3	....	....	29	30
April	1,335.2	139.	8.2	.....	.....	1,482.4	1,559.	216.5	80	11	2	....	93	82	11	1	....	94	96
May	1,147.3	107.4	8.2	8.2	.....	1,271.1	1,338.5	165.5	72	5	2	2	81	75	7	1	1	84	86
June	1,370.7	87.1	8.2	.....	.....	1,466.	1,541.	193.5	81	3	1	....	85	87	3	1	....	91	91
July	989.9	107.9	.....	7.	.....	1.104.8	1,159.5	157.	55	9	....	2	66	59	7	....	1	67	69
August	1,045.3	87.8	34.4	20.2	.....	1,187.7	1,248.5	177.5	64	5	2	2	73	67	5	2	1	75	76
September	722.6	76.	8.2	.....	.....	806.8	853.	106.5	49	7	1	1	58	51	6	1	....	58	60
October	978.6	132.4	.....	.....	.....	1,111.	1,167.	125.	58	7	....	....	65	60	8	....	....	68	68
November	736.2	98.8	7.2	.....	.....	842.2	882.	92.	41	4	2	....	47	44	4	1	....	49	50
December	548.	15.2	.....	.....	.....	563.2	594.	87.5	34	4	....	....	38	36	2	....	....	38	40
Totals	9,564.1	919.4	82.6	35.4	.....	10,601.5	11,147.	1,414.5	572	59	12	7	650	600	57	8	3	668	681

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Changes in size and location of services 1901:

Taps and Stops.										Sizes and Lengths of Lead Pipe.										Trenching.	Paving.	Change in size only.	Change in location only.	Change in both size and location.	Change in length.
Taken Out.					Inserted.					Taken Out.					Inserted.										
⅜ inch.	½ inch.	⅝ inch.	¾ inch.	1 inch.	⅜ inch.	½ inch.	⅝ inch.	¾ inch.	1 inch.	½ inch.	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.						
33	26	5	4	1	.....	31	10	12	1	571.7	353.8	49.5	114.1	8.2	539.1	148	127.6	.....	27.2	1,411	431.5	35	11	8	137

19 services have been removed.
During the year, 140 taps were reported obstructed and were dug up and examined; 133 were cleaned; 7 were found unobstructed.
18 private taps were inserted.

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The following table exhibits the number of service stops opened each month from the commencement to December 31, 1901:

MONTHS.	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
January...	....	54	33	21	34	55	15	49	9	20	7	17	15	21	17	18	26	7	39	36	39	56	40	29	30	27	30	40	18	24	18
February..	....	47	18	18	7	25	23	18	9	19	3	11	9	10	7	15	7	10	21	25	26	23	24	28	8	28	24	21	7	15	10
March.....	...	38	34	63	7	45	32	60	19	46	23	39	11	28	9	24	16	14	19	28	24	28	36	40	27	20	42	46	28	30	24
April.....	....	109	109	108	32	108	82	78	52	58	55	49	55	62	48	68	60	38	61	53	73	76	71	76	67	100	70	53	69	47	73
May.....	....	224	206	147	162	168	136	95	80	84	66	72	78	62	62	61	70	52	74	66	114	83	91	81	79	98	82	51	73	60	67
June.....	....	329	295	151	172	148	114	103	71	109	82	48	64	81	81	59	50	86	59	80	83	103	106	105	100	76	86	61	73	60	96
July.....	....	333	261	127	141	158	83	80	49	75	56	77	66	76	77	83	62	89	74	67	85	105	93	80	89	83	59	51	66	44	81
August....	....	224	209	123	83	94	91	51	51	39	58	87	69	61	57	71	49	52	56	76	95	104	115	116	83	64	69	54	80	66	78
September	...	184	147	139	101	94	80	63	44	37	60	67	93	50	70	59	74	63	64	77	93	114	88	112	70	71	67	53	53	76	72
October...	....	138	135	160	92	84	81	78	79	48	61	56	47	65	62	52	80	70	64	54	104	102	96	85	90	70	62	47	54	65	66
November.	...	100	104	185	86	54	73	57	63	54	37	64	49	51	39	57	69	47	58	72	81	118	80	70	68	52	54	42	45	54	63
December.	56	83	45	122	60	35	55	45	47	29	40	27	56	44	46	28	49	42	53	50	83	102	62	62	57	58	53	47	40	56	44
Totals....	56	1863	1596	1364	977	1068	865	777	573	618	548	614	612	611	575	595	612	570	642	684	900	1014	902	884	768	747	698	566	606	597	692

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The receipts for water each year since the commencement have been as follows:

Year.	Amount.	Year.	Amount.
1872	$41,003 51	1887	$339,513 60
1873	97,386 09	1888	346,731 58
1874	132,052 39	1889	377,497 97
1875	165,144 71	1890	401,140 86
1876	183,868 73	1891	404,553 84
1877	200,039 39	1892	409,421 21
1878	218,883 33	1893	427,546 51
1879	229,551 78	1894	432,383 97
1880	247,705 06	1895	471,069 97
1881	260,530 87	1896	485,187 33
1882	269,318 77	1897	490,652 47
1883	283,632 89	1898	502,603 10
1884	302,368 36	1899	522,124 46
1885	313,561 21	1900	554,949 62
1886	323,084 67	1901	578,869 07

The amount of bills approved on account of water works from October 1 to December 31, 1901, inclusive, was $41,112.08.

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$2,620 96
Sundries	2,478 89
Engineers	583 79
Firemen	464 90
Superintendence	292 43
Oil, waste and packing	93 89
Labor on fuel	73 00
Worthington high-duty pumping engine	68 72
Care of grounds	65 95
Barn expenses	48 70
Amount carried forward	$6,791 23

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Amount brought forward	$6,791 23	
Corliss pumping engine and house	48 58	
Real estate	43 20	
Cornish engine house	18 23	
Repairs on boilers	16 25	
Lights	42	
		$6,917 91

SOCKANOSSET RESERVOIR.

Watchman	$178 00	
Sundries	26 60	
		204 60

HOPE PUMPING STATION.

Firemen	$400 00	
Engineers	292 43	
Lights	62 79	
Sundries	23 50	
Coal and wood	16 79	
Repairs on boilers	5 24	
Oil, waste and packing	1 89	
Holly pumping engine	1 84	
		804 48

HOPE RESERVOIR.

Watchman	$200 25	
Sundries	170 80	
		371 05

FRUIT HILL RESERVOIR.

Sundries	$233 30	
Watchman	200 25	
		433 55

METER DEPARTMENT.

Water meters	$7,098 30	
Setting and repairing meters	1,404 95	
		8,503 25

PIPE LINE AND SERVICE STOPS.

Repairs	$3,444 61	
Superintendence — salaries	829 61	
		4,274 22
Amount carried forward		$21,509 06

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Amount brought forward		$21,589 05

PIPE YARD.

Laying water pipe	$4,362 49	
Pig lead and tin	1,289 82	
Laying service pipe	1,197 13	
Special castings	843 63	
Service pipe	416 61	
Taps and stops	181 86	
Labor on and carting pipe	96 40	
Pipe yard, office expenses	95 26	
Tools	87 20	
Patterns for special castings	69 63	
Fire hydrants, boxes and covers	15 07	
Cast iron water pipe	9 00	
Repairs on pipe yard buildings	7 82	
Stop valves	29	
		8,672 21

MISCELLANEOUS.

Town of Cranston, tax	$7,077 69	
Clerks' and inspectors' salaries	1,495 73	
Barn expenses	720 70	
Prevention of defilement of the Pawtuxet	549 99	
Town of North Providence, tax	400 00	
Horses, wagons, harnesses, etc	276 46	
Telephone lines	137 68	
Carfares	125 00	
Analyses of water	90 00	
Real estate in Pawtuxet	54 00	
Sundries	3 36	
Public drinking fountains and troughs	20	
		10,930 81
		$41,112 08

The total expenditures to December 31, 1901, inclusive, was $9,172,658 00

The *net* expenditure for construction and extension to December 31, 1901, inclusive, was	$6,479,093 35
The *net* expenditure for maintenance from October 1 to December 31, 1901, inclusive, was	$33,757 78
The *net* expenditure for maintenance to December 31, 1901, inclusive, was	$1,739,453 65

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The value of the water works system, January 1, 1901, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	135,157 13	
Sockanosset, Hope, and Fruit Hill reservoirs	729,080 13	
Main lines and distribution pipes	2,725,528 92	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tool and supplies	28,969 19	
		$3,975,404 37

Bills deposited with the city treasurer for collection from October 1 to December 31, 1901, inclusive, amounted to . . $74,068 88

As follows:

Water	$62,544 77
Water meters	5,512 00
Labor and material, laying services, etc	3,349 93
Setting and repairing meters	2,099 52
Repairs on pipe line	372 16
Rent of real estate	105 50
Penalties	70 00
Permanently closing service stops	15 00
	$74,068 88

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $75,899 33

As follows:

Water	$66,475 03
Water meters	5,528 75
Setting and repairing meters	2,078 97
Labor and material, laying services, etc	1,302 52
Repairs on pipe line	332 31
Rent of real estate	96 75
Penalties	70 00
Permanently closing service stops	15 00
	$75,899 33

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SEWERS.

During the quarter ending December 31, 1901, three hundred and seventy permits were issued to drain layers — one hundred and seventy-seven for new work and one hundred and ninety-three for extension and repairs of drains.

No drain layers' licenses were issued during the quarter.

October 23d, the proposal of E. M. Shaw was accepted to furnish for the precipitation tanks at Field's Point twenty-four tons of steel rails at $35.00 per gross ton.

December 5th, the proposal of Charles J. Jager Company to furnish a gasoline locomotive for yard service at the sewage disposal works at Field's Point, for the sum of $2,200, was accepted.

December 16th, the proposal of H. R. Horton Company to furnish, and deliver upon the line of the work, the natural and Portland cement required by the department of public works during the year 1902, was accepted and a contract subsequently executed.

December 18th, the proposal of Frederick E. Shaw to furnish and deliver vitrified sewer pipe and catch-basin flagstones was accepted and a contract for the same executed. Amount, $4,402.83.

December 18th, the offer of James Beaton to furnish and deliver 100 granite inlet-stones for catch-basins, was accepted. Amount, $490.

December 18th, the proposal of New England Steam Brick Company to furnish, and deliver upon the line of the work, the sewer bricks needed during 1902, for the sum of $10.25 per thousand, was accepted and a contract subsequently executed.

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SEWERS CONSTRUCTED TO DECEMBER 31, 1901, IN MILES:

ITEMS.	KIND.	Built previous to 1901.	Built during 1901.	Total to Dec. 31, 1901.
Under regular appropriation.....	Brick.	36.112	.424	36.536
Under regular appropriation.....	Pipe.	120.041	2.665	122.706
Under improved sewerage appropriation....	Brick and Pipe.	24.270	1.154	25.424
Total miles of sewers..		180.423	4.243	184.666

During the year, 92 catch-basins, 68 extra inlets, and 172 manholes, have been built, making a total to December 31, 1901, of 4,371 catch-basins, 1,355 extra inlets, and 7,922 manholes.

November 11th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials, or rock excavation.]

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
382.	Oct. 4, 1901,	*Calais, Edith and Leland streets,*	$1,923 90
383	" " "	*Seventh street, from Summit avenue to North Main street,* at $4.00 per cubic yard for rock.	
384.	" " "	*Douglas and Camden avenues,*	4,734 55

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No. of resolution.	Date of approval.		
402.	Nov. 7, 1901,	*Smithfield and Branch avenues,*	$3,098 80
417.	" 8, "	*Calais and West Park streets,*	887 75
418.	" " "	*President avenue, from Arlington to Wayland,* . .	1,685 90

November 18th, contracts for the construction of the following sewers, were awarded and subsequently executed, namely:

To Frederick E. Shaw.

No. of resolution.	Date of approval.		
572.	Dec. 20, 1895,	*Section 28, Moshassuck Division, Improved Sewerage System,* . . .	$47,216 10

To Edward W. Everson.

381.	Oct. 4, 1901,	*Section 27, Moshassuck Division, Improved Sewerage System,* . . .	$118,365 00

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
349.	Sept. 12, 1900,	*Section 25, Moshassuck Division, Improved Sewerage System,* . .	Oct. 19, 1901.
202.	May 17, 1901,	*Farmington and Silver Lake avenues,* . .	Oct. 16, 1901.
221.	June 7, 1901,	*Morris avenue and Cypress street,* .	Dec. 21, 1901.
283.	July 3, 1901,	*Selkirk street, from Cemetery to Smithfield avenue,* . . .	Oct. 19, 1901.

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No. of resolution.	Date of approval.		Date of completion.
291.	July 26, 1901,	*From Valley street to Woonasquatucket river, west of the Rhode Island Locomotive Works*,	Oct. 19, 1901.

At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
349.	Sept. 12, 1900,	*Section 26, Moshassuck Division, Improved Sewerage System.*
381.	Oct. 4, 1901,	*Section 27, Moshassuck Division, Improved Sewerage System.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
222.	June 7, 1901,	*North Main street, from city line to Frost street.*
383.	Oct. 4, 1901,	*Seventh street, from Summit avenue to North Main street.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced December 31, 1901, namely:

No. of resolution.	Date of approval.	
572.	Dec. 20, 1895,	*Section 28, Moshassuck Division, Improved Sewerage System.*
382.	Oct. 4, 1901,	*Calais, Edith and Leland streets.*
384.	" " "	*Douglas and Camden avenues.*
402.	Nov. 7, "	*Smithfield and Branch avenues.*
417.	" 8, "	*Calais and West Park streets.*
418.	" " "	*President avenue, from Arlington to Wayland.*

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SEWER MAINTENANCE DEPARTMENT

The following table shows the work performed by the department cleaning sewers, basins and drains, for the year 1901:

Months.	Old Work.								New Work.									Total deposit removed, cubic yards.
	Old Drains.			Sand-Catchers.		Open Ditches.			Sumps.		Sewers.				Catch-Basins.			
	Number.	Length in feet.	Deposit removed, cu. yards.	Number.	Deposit removed, cu. yards.	Number.	Length in feet.	Deposit removed, cu. yards.	Number.	Deposit removed, cu. yards.	Number.	Length in feet.	Deposit removed, cu. yards.	Dead ends.	No. times examined.	Number cleaned.	Deposit removed, cu. yards.	
January	....	.....	.....	....	.....	1	200	7.40	17	87.59	2	1,800	154.60	.....	1	729	440.89	690.48
February	....	.....	.....	....	.....	....	.....	.....	12	66.	1	800	661.52	.....	1	504	272.14	999.66
March	1	200	22.23	12	10.67	....	.....	.....	10	88.89	36	7,800	158.59	.....	2	827	928.89	1,209.27
April	....	.....	.....	....	.....	5	350	47.23	5	103.12	38	10,900	23.22	.....	1	984	1,147.58	1,321.15
May	....	.....	.....	....	.....	4	450	35.15	16	115.30	1	300	16.60	.....	1	1,169	1,145.48	1,312.53
June	....	.....	.....	....	.....	....	.....	.....	4	22.52	113	33,600	79.74	.....	1	1,481	1,502.51	1,604.77
July	1	81	3.00	....	.....	2	300	11.11	....	.....	33	6,800	24.93	88	1	1,522	1,185.11	1,224.15
August	....	.....	.....	....	.....	2	160	17.23	11	77.70	40	12,000	23.11	.....	2	1,529	1,329.85	1,447.89
September	....	.....	.....	....	.....	....	.....	.....	15	62.81	88	26,400	124.30	29	2	1,339	982.74	1,169.85
October	....	.....	.....	10	10.19	....	.....	.....	13	171.00	66	16,500	35.81	.....	1	991	928.85	1,145.85
November	1	150	9.26	....	.....	2	750	45.37	13	63.15	17	3,510	19.59	.....	1	1,333	791.18	928.55
December	7	1,325	97.23	12	10.25	2	600	22.23	27	210.14	1	400	16.62	.....	1	509	352.23	708.70
Totals	10	1,756	131.72	34	31.11	18	2,810	185.72	143	1,068.22	436	120,810	1,338.63	11.7	15	12,917	11,007.45	13,766.85

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In addition to the accompanying form, the following work has been performed by the sewer maintenance department for the year 1901:

Work on Sewers.

Examined all sewers for condition and deposit, and all gates, slots, and sumps for condition and repairs forty-nine times. Repaired thirteen sewers, forty-four holes over sewers, two gate-houses, and five gates in sewers. Reset 220 manhole frames, replaced twenty frames, forty-three covers, and two screens at Field's Point. Rebuilt three chutes. Removed roots from seventy-seven sewers and six chutes. Pumped out well at precipitation tanks twice (on account of broken valve), watched and cared for boilers, and graded and seeded banks at same. Relaid two connections. Put thirty-three pans in manholes of sewers and flushed twenty-four summits. Supplied water to six houses eleven times each, and painted gate-houses at Field's Point and India street.

Work on Basins.

Flushed 1,455 traps and 1,450 chutes. Reset forty-eight traps, fifteen basin head-stones and twenty sills. Repaired thirty-two basins, thirteen holes at basins and thirty-one chutes. Removed snow from 995 inlets and thawed out sixty-eight traps. Replaced eight basin covers, two chute covers, one chute frame and cover, one chute stone, twelve track grates and one track grate frame. Discontinued one basin. Examined all basins for concrete and inspected all basins being concreted. Put in two extra traps and five extra inlet frames and covers.

Old Work.

Repaired nine old drains, four culverts, four holes over old drains; extended one 125 feet and put bulkhead in one. Connected one pond with sewer; leveled one dump, and built one chute.

Miscellaneous Work.

Flushed ninety-seven private connections, charged $232.50; pumped out six cellars, $50.40; filled four cisterns, $6; dug ditch at Reservoir avenue for Josiah A. Whitman, $75; rebuilt basin on Prospect street for Brown University, $10.25.

For Fred E. Shaw: Drove test-wells in Branch avenue, charged $22; cleaned sewer, $17.75.

Drove test-well in Branch avenue for E. W. Everson, charged $29.50; puddled ditch at new car barn on Elmwood avenue for Horton & Hemingway, $20.75; altered manhole for New York, New Haven & Hartford Railroad Company, $24.75; altered basin and chute for City Realty Company, $29.50; altered basin connection at Broad and Pearl streets for Narragansett Electric Lighting Company, $15 75.

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For John Deary: Puddled ditch at State house grounds, charged $18.27; put in five ten-inch, one six-inch and one twelve-inch connections in sewers at State house grounds, $43.35.

For Union Railroad Company: Altered nineteen basins, eleven chutes and 115 manholes; built twenty-nine basins and thirteen chutes; abandoned twenty-five basins, two chutes and one manhole, charged $2,116.69.

For Improved Sewerage Department: Carted press plates and machinery from boat and railroad to precipitation tanks; built three sumps, one basin and two chutes, put in one six-inch connection to sewer, graded and laid track, pumped and watched, and did miscellaneous work at same.

For Water Works Maintenance Department: Removed ashes five times, and shaft to depot and return from Hope station, also repaired fire-box and furnace at same; repaired manhole and fence at Hope reservoir, and pounded and seeded banks at Sockanosset and Hope reservoirs; connected two drinking fountains with sewer.

For Sewer Construction Department: Built eighteen basins and thirty-five chutes, and two basins and six chutes on storm sewers; reset ten manhole frames; put in three six-inch, one five-inch and one eight-inch connections to sewers, and relaid connection on Elmgrove avenue.

For Highway Department: Built one basin and six chutes on surface drainage, located and set stone bounds, rebuilt river wall on Promenade street, and laid 558 feet of surface drain on Allens avenue and Ernest street.

For Highway Special Department: Laid underdrains in Elmgrove avenue.

The amount of bills approved on account of sewers from October 1 to December 31, 1901, inclusive, was as follows:

For Construction.

Regular appropriation	$28,385 30	
Improved sewerage appropriation	37,346 62	
		$65,731 92

Charged as follows:

Contract reservations	$7,555 00
Material	1,726 62
Additional catch-basins	462 65
Testing cement	248 92
Sundries	247 76
Tools	7 33
Sewer in Admiral street at Douglas avenue	121 75
Sewer in Blackstone boulevard, west side	665 59
Sewer in Bucklin street, from Peace to near Cromwell	1,449 29
Sewer in Farmington and Silver Lake avennes	5,577 11
Sewer in Morris avenue and Cypress street	8,495 71
Amount carried forward	$26,557 73

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Amount brought forward	$26,557 73
Sewer in North Main street, from city line to Frost street	9,184 68
Sewer in Seventh street, from Summit avenue to North Main street	880 70
Chemical and laboratory buildings — to erect	80 71
Installation of electric lights at sewage precipitation tanks	1,975 00
Machinery for sludge press house	3,881 23
Salaries of assistant engineers	381 43
Sundries, improved sewerage system	812 57
Sewage sludge filter presses	8,795 20
Sewage precipitation tanks — to build	292 28
Sewer in Moshassuck Division, Section 24	269 20
Sewer in Moshassuck Division, Section 25	8,326 11
Sewer in Moshassuck Division, Section 26	1,228 17
Sewer in Moshassuck Division, Section 27	830 12
Sewer from Valley street to Woonasquatucket river	1,967 24
Sludge press house — to erect	269 55
	$65,731 92

For maintenance, ... $23,537 74

Classified as follows:

Cleaning basins and sewers	$3,621 94
Repairing basins and sewers	2,360 98
Cleaning and repairing old drains	1,150 19
Use of water	900 00
Sundries	674 79
Inspection of connections	655 32
Barn expenses	489 33
Salary — superintendent	432 29
Sewer in sidewalk of Central fire station, Exchange place	293 64
Tools	246 44
Horses, wagons, harnesses, etc	110 84
Office expenses	61 87
Contract reservations	60 00
Cleaning private connections	52 40
Telephone lines	35 68
Repairs on buildings — sewer maintenance yard	9 75
Filling cisterns, etc	3 75
Repairs on gate houses	90
Amount carried forward	$11,160 11

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Amount brought forward	$11,160 11

ERNEST STREET STATION.

Coal and wood	910 26
Engineers	787 65
Cleaning screens	621 83
Firemen	434 98
Cleaning and repairing pumps	428 80
Supplies	66 33
Care of grounds	52 22
Lights	47 18
Repairs on boilers	28 05
Repairs on engines	20 49
Care of buildings	13 13
Repairs on buildings	4 45

SEWAGE PRECIPITATION TANKS.

Chemicals	4,376 93
Labor in sludge disposal	1,963 29
Labor on sewage precipitation	850 10
Miscellaneous supplies	783 71
Watchman	358 03
Fuel	309 00
Repairs on machinery	224 32
Lights	42 49
Care of grounds	26 40
Repairs on buildings	13 09
Miscellaneous work	11 75
Repairs on tanks	3 15
	$23,537 74

The *net* expenditure for construction of sewers to December 31, 1901, inclusive, was $7,015,255 44

The *net* expenditure for maintenance of sewers to December 31, 1901, inclusive, was $811,716 78

Bills deposited with the city treasurer for collection from October 1 to December 31, 1901, inclusive, amounted to . . $2,730 97

As follows:

Miscellaneous work	$1,378 76
Cleaning private connections	79 75
Overcharge for freight on lime	12 00
Amount carried forward	$1,470 51

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Amount brought forward	$1,470 51
Old manhole frame and cover	6 85
Filling cisterns, etc	3 75
Sewer material	1,198 93
Laying drains to curbstone	26 38
Overcharge for freight on filter plates	18 25
Testing cement	6 30
	$2,730 97

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for, to the amount of $2,700 73

As follows:

Miscellaneous work	$1,330 52
Cleaning private connections	97 75
Overcharge for freight on lime	12 00
Old manhole frame and cover	6 85
Filling cisterns, etc	3 75
Sewer material	1,198 93
Laying drains to curbstone	26 38
Overcharge for freight on filter plates	18 25
Testing cement	6 30
	$2,700 73

HIGHWAYS.

No permits to open streets were issued during the quarter.

October 1st, the proposals of Westerly Granite Works and A. G. Crumb & Sons, to each furnish 25,000 granite paving blocks, for $1.25 per square yard, were accepted.

December 11th, the proposal of Crabtree & Havey, to furnish and deliver in this city 10,000 lineal feet of straight granite curbing, for the sum of fifty cents per lineal foot, was accepted.

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December 21st, the offer of Fuller Iron Works to furnish new wheels for two 15-ton and one 20-ton road roller, for the sum of $1,050, was accepted.

Nine hundred and eleven notices to build or repair sidewalks were served on the abutting owners during the year 1901. The work, including one hundred and four brought over from the preceding year, was done as follows:

By the abutting owners	815
By the city, at the expense of the abutting owners	85
Time for doing work extended	17
Work not done	98

The length of received streets December 31, 1901, was 227.46 miles, measured on street lines and to street line intersections. But, as it is customary in street construction or street paving to complete the work to the curb line intersection, the lengths in the following tables are measured on those lines and sub-divided as follows:

Received streets		232.85 miles.
Streets curbed and built	156.96 miles.	
Streets not curbed but the roadway macadamized or graveled	30.22 miles.	
Streets paved	32.39 miles.	
Streets received but not improved	13.28 miles.	
Total		232.85 miles.

The actual area of street pavement is 709,713.2 square yards. If this is estimated to an average width of roadway of 30 feet, it would be equal to 40.32 lineal miles and is subdivided as follows:

Granite blocks	30.12 miles.
Cobble	4.70 miles.
Asphalt	4.61 miles.
Vulcanite	.47 miles.
Brick	.42 miles.

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In addition to the general patching necessary to maintain the streets in good repair, the following work has been done during the year ending December 31, 1901, namely:

New streets built	25,331.85 linear feet.
Curbing set	44,408.63 linear feet.
Streets rebuilt	9,375.00 linear feet.
Streets resurfaced	118,949.00 linear feet.
Streets graded	9,300.00 linear feet.
Block pavement laid	14,946.52 square yards.
Asphalt pavement	0.00 square yards.
Asphalt pavement relaid	812.74 square yards.
Cobble pavement relaid	0.00 square yards.
Block paving relaid	24,480.00 square yards.
Brick paving relaid	0.00 square yards.
Asphalt gutters and roadways built	869.79 square yards.
Concrete sidewalks laid	12,999.89 square yards.
Concrete sidewalks patched and top-dressed	3,469.87 square yards.
Crushed stone used	58,685.67 tons.
Screened gravel used	6,185.80 cubic yards.

During the year the following streets, aggregating 22.452 + miles, have been resurfaced, namely:

Academy avenue, from Atwells to Chalkstone.
Admiral street, from Hawkins to Grape.
Alabama avenue, from Broad street to Maryland avenue.
Ambrose street, from Victor to Chalkstone avenue.
Angell street, from Butler avenue to Grand.
Angell street, from Butler avenue to Wayland.
Angell street, from Hope to Brook.
Ashmont street, from Eddy to Ocean.
Bath street, from Chalkstone avenue to Valley street.
Benedict street, from Cranston to fifty feet east of Brattle.
Bourne street, from Atwells avenue to Broadway.
Brattle street, from Potters avenue to Waldo street.
Briggs street, from Plain to Ocean.
Brighton street, from Vinton to Courtland.
Broad street, from West Friendship to Moore.
Broad street, from Prairie avenue to the railroad bridge.
Broad street, from the railroad bridge to the city line.
Brook street, from Power to Benevolent.
Bucklin street, from Hawthorne to Greenwich.
Burnett street, from Dexter to Bucklin.
Byron street, from Broad to Pine.
Calhoun avenue, from Potters to the railroad bridge.
California avenue, from Virginia to Maryland.
Chalkstone avenue, from Black street to the railroad bridge.

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Chapin avenue, from Ellery street to Huntington avenue.
Charles street, from Hagan to the city line.
Chester avenue, from Broad street to Taylor.
Comstock avenue, from Prairie to Broad street.
Corliss street, from West River to Darling.
Daboll street, from Public to Updike.
Daboll street, from Dexter to Bucklin.
Delhi street, from Chalkstone avenue to Victor street.
Dorchester avenue, from Laurel Hill to Webster.
Doyle avenue, from Camp street to 284 feet westerly.
Doyle avenue, from North Main street to 210 feet east of angle.
Dudley street, from Prairie avenue to Gay street.
Eddy street, from Pavilion avenue to the railroad bridge.
Elmwood avenue, from Trinity square to Earl street.
Federal street, from Dean to Arthur avenue.
Tremont street, from Gano to Ives.
Gaspee street, from the railroad bridge to Kinsley avenue.
George street, from Benefit to 100 feet west of Prospect.
George street, from Cooke to Brook.
Greenwich street, from Elmwood avenue to Potters.
Grove street, from Valley to Harris avenue.
Harris avenue, from Atwells to Broadway.
Harrison street, from Sprague to Cranston.
Hartford avenue, from Heath street to Killingly.
Hedley street, from Walling to Shove.
Hope street, from Cypress to Forest.
Hope street, from Pleasant to Barnes.
Houston street, from Broad to Gordon avenue.
Huntington avenue, from Westminster street to Union avenue.
Indiana avenue, from Virginia to Maryland.
Kinsley avenue, from Harris to 760 feet westerly.
Linden street, from Broad to Friendship.
Linwood avenue, from Cranston street to Dexter.
Livingstone street, from Corliss to Nichols.
Luna street, from Branch avenue to Northup.
Maryland avenue, from New York to Montgomery.
Massachusetts avenue, from Virginia to Maryland.
Mawney street, from Dexter to Bucklin.
Melrose street, from Potters avenue to Adelaide.
McDonough street, from Huntington avenue to 500 feet easterly.
Myrtle street, from Pine to Broad.
Oak street, from Parade to Messer.
Ohio avenue, from Virginia to Maryland.
Palmer street, from Hedley to Pettis.
Pettis street, from North Main to Walling.
Pitman street, from Wayland to Governor.
Plainfield street, from Murray to the city line.
Pocasset avenue, from Laurel Hill to the city line.
Polk street, from Hedley to Pettis.
Pontiac street, from Reservoir avenue to the city line.
Potters avenue, from Broad street to Eddy.

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Potters avenue, from Elmwood to Cranston street.
Power street, from Benefit to South Main.
Preston street, from Gano to Ives.
Printery street, from Randall to Livingstone.
Promenade street, from Gaspee to 100 feet west of Park.
Public street, from Broad to Greenwich.
Reservoir avenue, from Elmwood to the city line.
Rochambeau avenue, from angle west of Lorimer to angle east of same.
Salem street, from Potters avenue to Waldo street.
Shove street, from Hedley to Pettis.
Stampers street, from North Main to Hewes.
Sycamore street, from Westminster to Chapin avenue.
Taylor street, from Public to Comstock avenue.
Thayer street, from Meeting to Cushing.
Union avenue, from Messer street to Ellery.
Updike street, from Peace to Public.
Vermont avenue, from Virginia to Maryland.
Victor street, from Delhi to Ambrose.
Viola street, from Plainfield to Dorchester avenue.
Wadsworth street, from Salem to Cranston.
Waldo street, from Salem to Cranston.
Walling street, from Nichols to West River.
Washington street, from Jackson to Franklin.
Washington avenue, from Virginia to Maryland.
Waterman street, from Benefit to Thayer.
Wayland avenue, from Waterman street to Medway.
Wendell street, from Messer to Ellery.
Westfield street, from Dexter to Harrison.
West Park street, from Park to Holden.
West River street, from Dart to 900 feet northerly.
Williams street, from Gano to Roger.
Woodland street, from Park to Holden.

1.761 + miles of streets have been graded during the year, namely:

Angell street, from Paterson to Rhode Island avenue.
Arlington avenue, from Lloyd to Olney street.
Borden street, from Plain to Beacon avenue.
Farmington avenue, from Silver Lake to Plainfield street.
Lloyd avenue, from Arlington to Slater.
Silver Lake avenue, from Union to Plainfield street.
Taber avenue, from Lloyd to Irving.
University avenue, from Elmgrove to Arlington.

1.396 + miles of streets have been repaved during the year, namely:

Dyer street, from Ship to Dorrance.
Eddy street, from Point to Thurbers avenue.

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Middle street, from Orange to Dorrance.
Ship street, from Dyer to Richmond.

1.775 + miles of streets have been rebuilt during the year, namely:

Branch avenue, from Langdon street to Woodward road.
Dyer street, from Dorrance to Eddy.
Eddy street, from Point to Pavilion avenue.
Ship street, from Richmond to Dyer.
Winter street, from Broad to Cranston.

During the quarter, the following work was completed:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
June 20, 1901,	*Roosevelt street, from Webster avenue, to Laurel Hill.*
" " "	*Priscilla avenue, from Sterling to Union.*
" " "	*Webster avenue, from Laban street to Eastwood avenue.*
Sept. 5, "	*Jewett street, from Valley about 540 feet easterly.*
" " "	*West Park street, from Valley about 800 feet easterly.*
Oct. 17, 1901,	*Bucklin street, from Burnett to Cromwell.*
" " "	*Lloyd avenue, from present end of curb to Arlington.*

TO PAVE WITH GRANITE BLOCKS.

No. of resolution.	Date of approval.	
380.	Oct. 4, 1901,	*Promenade street from Park to Leland.*

The following work was in progress December 31, 1901, namely:

TO TAKE POSSESSION.

Date of order.	
Nov. 21, 1901,	*South Main street, from Pioneer lane to Transit street.*

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The following work, ordered by the board of aldermen and city council, had not commenced December 31, 1901, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.

May 16, 1901, *Douglas avenue, from Chad Brown street to Admiral.*

Oct. 17, 1901, *Eastwood avenue, from Heath street to Ralph.*

To Pave with Granite Blocks.

No. of resolution. Date of approval.

379. Oct. 4, 1901, *Branch avenue, from Veazie street to bridge near Vandewater.*

Bills approved on account of highways from October 1 to December 31, 1901, inclusive, amounted to:

Regular appropriation	$77,816 21	
Special appropriation	4,247 81	
Special credit appropriation	766 15	
		$82,830 17

Classified as follows:

Repairs on unpaved streets	$15,133 58
Cleaning streets	13,126 80
Crushed stone — material and labor	11,694 61
Repairs on paved streets	5,178 10
Barn expenses	3,121 94
Blacksmith and wheelwright shop	2,673 13
Stone — paving and crosswalk	2,325 24
Removing snow and ice	837 91
Tools, implements, etc	817 03
Steam rollers — repairs and supplies	611 40
Repairs on stone crushers	529 27
Labor on material	466 63
Salary of superintendent	432 29
Building driveways, etc	356 74
Horses, wagons, harnesses, etc	242 20
Fencing streets, material and labor	172 50
Amount carried forward	$57,719 37

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Amount brought forward	$57,719 37	
Watchman at city yard	152 57	
Sundries	115 71	
Repairs on buildings, highway yard	107 48	
Office expenses, city yard	72 28	
Watering streets	63 33	
Car fares	25 00	
Telephone lines	5 35	
		$58,261 09

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Alger avenue, from Carlisle street to Whitney	$376 33	
Arlington avenue, from Lloyd to Olney street	1,880 40	
Bucklin street, from Burnett to Cromwell	5,811 28	
Jewett street, from Valley about 540 feet easterly	481 23	
Lloyd avenue, from present end of curbing to Arlington	2,320 25	
Niagara street, from Stanwood to Congress avenue.	258 05	
Olney street, from Hope to Morris avenue	1,733 03	
Perkins street, from Pearl to A	580 61	
Priscilla avenue, from Sterling to Union	2,886 25	
Roosevelt street, from Webster avenue to Laurel Hill	2,017 13	
Saunders street, from Lester to Perkins	185 54	
Webster avenue, from Laban street to Eastwood avenue	750 34	
West Park street, from Valley 800 feet easterly	564 32	
		19,844 76

Pave with Granite Blocks.

Promenade street, from Park to Leland		4,267 02

Grade and Repair.

Elmgrove avenue, east side, from President to Doyle, and on west side, from President to Hazard		457 30
		$82,830 17

Bills deposited with the city treasurer for collection from October 1 to December 31, 1901, inclusive, amounted to . . . $12,434 51

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As follows:

Union Railroad Company, for granite blocks, etc..	$7,566 89
Labor and material	3,476 24
Street sweepings	379 00
Blacksmith and harness work for other departments	348 27
Boarding horses for other departments	307 05
Old iron and bricks	262 96
Manure from barn	74 00
Discharging cargoes at city wharf	13 50
Old oil barrels	6 60
	$12,434 51

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $13,335 87

As follows:

Labor and material	$11,482 96
Union Railroad Company, for granite blocks, etc..	479 88
Blacksmith and harness work for other departments	477 13
Street sweepings	379 75
Boarding horses for other departments	307 05
Removing lamp posts	115 00
Manure from barn	74 00
Discharging cargoes at city wharf	13 50
Old oil barrels	6 60
	$13,335 87

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from October 1 to December 31, 1901, inclusive, amounted to . . $8,421 27

Charged as follows:

Granite curbing	$6,889 97
Concreting sidewalks	1,175 02
Repairing sidewalks and gutters	356 28
	$8,421 27

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Bills deposited with the city treasurer for collection from October 1 to December 31, 1901, inclusive, amounted to . . $379 62

As follows:

Granite curbing	$345 09
Concreting sidewalks	34 53
	$379 62

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of . $386 91

As follows:

Granite curbing	$352 38
Concreting sidewalks	34 53
	$386 91

CITY ENGINEER.

Bills approved on account of the city engineer's department from October 1 to December 31, 1901, inclusive, amounted to $12,022 56

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,709 57
Salaries of clerks	772 40
Car fares	203 85
Supplies — drawing material, etc	185 73
Instruments and repairs	14 75
Carriage hire	3 88
Sundries	3 20
Telephone lines	2 68
Meterological instruments and repairs	1 50
	$12,022 56

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Bills deposited with the city treasurer for collection from October 1 to December 31, 1901, inclusive, amounted to . . $85 50

As follows:

One transit	$50 00
Services of engineer, marking grades, etc.	35 50
	$85 50

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $82 14

As follows:

One transit	$50 00
Services of engineer, marking grades, etc.	32 14
	$82 14

BRIDGES.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*

Bills approved on account of bridges from October 1 to December 31, 1901, inclusive, amounted to $4,105 16

Charged as follows:

Atwells avenue bridge	$11 39
Barn expenses	122 85
Branch avenue bridge	1 20
Building at city yard	8 13
Burnside bridge	1 00
Charles street railroad bridge	3 00
Crawford street bridge	29 80
Amount carried forward	$177 37

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Amount brought forward	$177 37
Exchange bridge	8 95
Francis street bridge	11 25
Geneva bridge	3 38
Horses, wagons, harnesses, etc	190 87
Lumber, hardware, etc	108 85
Manton avenue bridge	13 05
Nash lane bridge	9 00
Park street bridge	7 18
Point street bridge	299 70
Promenade street bridge	8 10
Randall street bridge	21 60
Red bridge	162 05
Rent of keeper's house, Washington bridge	30 00
Salaries — Point street bridge	972 75
Salaries — Red bridge	533 71
Salaries — Washington bridge	486 17
Sundries	159 40
Telephone lines	2 68
Tools	75 53
Veazie street bridge	3 37
Washington bridge	819 20
Weybosset bridge	1 00
	$4,105 16

Bills deposited with the city treasurer for collection from October 1 to December 31, 1901, inclusive, amounted to . . . $45 24

As follows:

Painting trolley supports for Union Railroad Company	$41 74
Sweepings from Washington bridge	2 00
Old lumber	1 50
	$45 24

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $69 25

As follows:

Painting trolley supports for Union Railroad Company	$41 74
Repairs on Crawford street bridge	24 01
Sweepings from Washington bridge	2 00
Old lumber	1 50
	$69 25

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PUBLIC LIGHTS.

The public lamps used for lighting the streets are burned all night during every night of the year; the average is about eleven hours per night. The different kinds of street lamps in use are as follows:

Electric Arc Lights.

The number of arc lights in use is 1,898 of 2,000 candle-power each, furnished under contract with the Narragansett Electric Lighting Company, for the sum of 32½ cents per night for each light. The system is direct current in the close-building district and alternating current in the outlying districts. The lamps are suspended from mast arms supported by wooden poles located at street intersections, and are elevated 21½ feet above the surface of the street. The average distance between the lights is about 375 feet.

Incandescent Electric Lights.

There are 1,860 incandescent lights in use of 32 candle-power each, commercial rating, furnished under contract with the Narragansett Electric Lighting Company at a cost of $24.00 each per year. These lights are suspended from brackets attached to wooden or iron poles set near the curb line, and hang about 15 feet above the surface of the street. The average distance between lamps is about 210 feet. The lamps are hung considerably lower than arc lamps and furnish a better light to streets lined with shade trees having low overhanging branches.

There are 75 additional lights in Roger Williams Park that are extinguished at midnight and cost $12.00 each per year.

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Welsbach Gas Lights.

The number of these lamps in use is 793 of 60 candle-power each, furnished by the Welsbach Street Lighting Company, and cost, including gas and labor of lighting and maintenance, the sum of $30.00 each per year. The posts are iron, owned by the city, and have been heretofore used in the same locations for lighting with ordinary gas lamps under contract with the Providence Gas Company. The average distance apart is about 200 feet.

Bills approved on account of the public lights from October 1 to December 31, 1901, inclusive, amounted to $73,856 91

Charged as follows:

Arc lights	$55,867 46
Incandescent lights	11,299 88
Welsbach lights	5,856 92
Salaries	565 94
Barn expenses	122 87
Gas for street lights	72 03
Setting and removing gas posts	53 32
Supplies for repairing posts and lanterns	15 00
Horses, wagons, harnesses, etc	3 49
	$73,856 91

Bills deposited with the city treasurer for collection from October 1 to December 31, 1901, inclusive, amounted to . . . $204 53

As follows:

Old gasoline lamp posts	$163 50
Removing gas posts	31 03
Lanterns, torches, etc	10 00
	$204 53

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $193 93

As follows:

Lamp posts, lanterns, etc	$173 50
Removing gas posts	20 43
	$193 93

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PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from October 1 to December 31, 1901, inclusive, amounted to . . . $5,251 78

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,158 89
Office supplies	165 21
Telephone lines	2 68
	$5,251 78

ROBERT E. SMITH,

Commissioner.

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CITY DOCUMENT — No. 1

SEVENTY-SEVENTH

QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING MARCH 31, 1902.

PROVIDENCE, R. I.
PRESS OF E. L. FREEMAN & SONS
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SEVENTY-SEVENTH

QUARTERLY REPORT

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OF THE

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QUARTER ENDING MARCH 31, 1902.

The Providence Press:
Snow & Farnham, City Printers,
[illegible] Washington Street.
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SEVENTY-SEVENTH

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1902.

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TILDEN FOUNDATIONS.
1902

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., April 1, 1902.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-seventh quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending March 31, 1902.

WATER WORKS.

The average daily consumption of water during the quarter was 11,196,107 gallons.

Water pipes were laid during the quarter as follows:

8-INCH.	
In Douglas avenue; and in Pontiac avenue in the town of Cranston	595.40 feet.
6-INCH.	
In Crawford and Governor streets in the town of Cranston	214.62 feet.
Total	810.02 feet.

or, .153 + miles.

Statement of sizes and lengths of pipe laid since the commencement of the work:

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36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	98,145.47 feet.
10-inch	15,057.14 feet.
8-inch	277,822.44 feet.
6-inch	1,196,678.13 feet.
Total	1,746,585.31 feet.

or, 330.792 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Five fire hydrants have been set during the quarter, one in each of the following locations:

Angell street, north side, 6 feet west of west building line of Rhode Island avenue.

Branch avenue, south side, 171 feet east of range of east building line of Bingham street.

Crandall street, east side, 268 feet north of north building line of Augusta street.

Douglas avenue, northeast side, 172 feet northwest of northwest building line of Pumgansett street.

Duncan avenue, north side, 306 feet east of east building line of North Main street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now nineteen hundred and twenty-three — eighteen hundred and thirty-five flush, and eighty-eight post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

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During the quarter, two hundred and thirty-one water meters were set, of which number fifty were to replace other meters. The use of nine meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,417	491	121	13	5	.....	.....	.....	3,047
Ball & Fitts, rotary	.....	.....	6	7	.....	2	1	.....	16
Crown	8,941	981	289	131	33	20	20	.....	10,415
Empire	644	110	50	40	10	.....	1	.....	855
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	10	24	15	3	52
Thomson	3,669	423	76	54	21	7	7	2	4,259
Trident	67	.....	1	.....	.....	.....	.....	.....	68
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	15,739	2,006	544	245	80	53	44	5	18,716

One hundred and twenty plumbers' licenses were issued during the quarter, all of which expire December 31, 1902.

Five hundred and twenty-four permits to do plumbing work were issued during the quarter.

Eighty-nine applications for water were made during the quarter, making the total number March 31, 1902, twenty-four thousand nine hundred and sixty-nine.

The number of new service stops opened during the quarter was eighty-four.

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The total number of service stops opened to March 31, 1902, inclusive, was twenty-four thousand two hundred and seventy-eight. The number in actual use March 31, 1902, was twenty-two thousand two hundred and thirty.

The amount of bills approved on account of water works from January 1 to March 31, 1902, inclusive, was $51,044.40.

Classified as follows:

Pettaconset Pumping Station.		
Coal and wood	$2,708 93	
Engineers	600 93	
Sundries	594 65	
Firemen	471 50	
Superintendence	299 00	
Care of grounds	245 00	
Labor on fuel	80 38	
Barn expenses	76 18	
Oil, waste and packing	58 07	
Repairs on boilers	33 22	
Worthington high-duty engine	27 45	
Corliss pumping engine and house	17 40	
Cornish engine house	3 65	
Lights	21	
		$5,216 57
Sockanosset Reservoir.		
Watchman	$182 00	
Sundries	113 00	
		295 00
Hope Pumping Station.		
Firemen	$400 40	
Engineers	299 00	
Coal and wood	255 00	
Lights	64 89	
Sundries	27 00	
Repairs on boilers	10	
		1,046 39
Hope Reservoir.		
Watchman	$204 75	
Sundries	117 13	
		321 88
Amount carried forward		$6,879 84

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Amount brought forward		$6,879 84

Fruit Hill Reservoir.

Sundries	$233 39	
Watchman	204 75	
		438 14

Meter Department.

Water meters	$2,816 38	
Setting and repairing meters	1,263 48	
		4,079 86

Pipe Line and Service Stops.

Repairs	$3,704 33	
Superintendence — salaries	848 25	
		4,552 58

Pipe Yard.

Cast iron water pipe	$23,815 29	
Service pipe	2,548 02	
Stop valves	1,583 10	
Special castings	1,048 25	
Laying service pipe	802 64	
Laying water pipe	737 38	
Taps and stops	688 30	
Fire hydrants, boxes and covers	312 60	
Labor on and carting pipe	258 00	
Tools	253 11	
Pipe yard, office expenses	77 94	
Patterns for special castings	8 00	
		32,132 63

Miscellaneous.

Clerks' and inspectors' salaries	$1,510 16	
Barn expenses	588 66	
Prevention of defilement of the Pawtuxet	549 99	
Telephone lines	137 68	
Horses, wagons, harnesses, etc	104 28	
Car fares	65 00	
Public drinking fountains and troughs	3 08	
Sundries	2 17	
Real estate at Pawtuxet	33	
		2,961 35
		$51,044 40

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The total expenditures to March 31, 1902, inclusive, was $9,223,702 40

The *net* expenditure for maintenance from January 1 to March 31, 1902, inclusive, was..... $42,995 64

The *net* expenditure for maintenance to March 31, 1902, inclusive, was..... ..... $1,773,451 27

The value of the water works system, January 1, 1902, as estimated by the city engineer, was as follows:

Pettaconset pumping station.....	$340,694 00	
Hope pumping station	132,281 46	
Sockanosset, Hope and Fruit Hill reservoirs.....	721,563 84	
Main lines and distribution pipes.....	2,726,494 03	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies.....	22,371 35	
		$3,959,379 68

Bills deposited with the city treasurer for collection from January 1 to March 31, 1902, inclusive, amounted to . . . $410,124 34

As follows:

Water.....	$404,032 93
Water meters	3,502 25
Setting and repairing meters.....	1,585 33
Labor and material, laying services, etc.....	472 61
Old scrap iron.....	171 43
Penalties.....	132 00
Rent of real estate.....	93 00
Rebate on water meters.....	50 00
One horse	50 00
Repairs on pipe line.....	24 79
Permanently closing service stops.....	10 00
	$410,124 34

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $406,122 36

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As follows:

Water	$397,939 60
Water meters	3,627 75
Labor and material, laying services, etc	2,467 21
Setting and repairing meters	1,620 62
Old scrap iron	171 43
Penalties	134 00
Rent of real estate	101 75
One horse	50 00
Permanently closing service stops	10 00
	$406,122 36

SEWERS.

During the quarter ending March 31, 1902, one hundred and sixty-eight permits were issued to drain layers — sixty for new work and one hundred and eight for extension and repairs of drains.

One hundred and thirty-four drain layers' licenses were issued during the quarter, all of which expire December 31, 1902.

January 21st, the proposal of Starkweather & Williams Company to furnish and deliver 24 car loads of copperas at Harbor Junction wharf for the sum of $31\frac{7}{10}$ cents per hundred pounds, was accepted.

March 27th, the proposal of J. H. Lane & Company to furnish and deliver 10,000 yards of chain cloth, 40 inches wide, for sewage presses at Field's point, for the sum of twenty-one cents per yard, was accepted.

During the quarter, assessments for the cost of constructing sewers were certified to the city treasurer as follows:

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Angell street, from Wayland avenue to Butler	$2,689 08
Blackstone boulevard, west side	1,106 69
Frontenac, University and Taber avenues	10,506 06
Bath street, from Orms to Chalkstone avenue	1,828 40
Broad, Stanwood, Niagara and Borden streets	3,521 12
Admiral street, at Douglas avenue	1,429 16
Dorchester avenue and Viola street	4,511 94
Ninigret avenue, McDonough street and Lenox avenue	3,066 04
Smithfield avenue, Section 25, Improved Sewerage System	5,411 23
Selkirk street, from Cemetery to Smithfield avenue	737 76
Morris avenue and Cypress street	7,933 19
Bucklin street, from Peace to near Cromwell	2,025 01
Total	$44,765 68

At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
349.	Sept. 12, 1900,	*Section 26, Moshassuck Division, Improved Sewerage System.*
381.	Oct. 4, 1901,	*Section 27, Moshassuck Division, Improved Sewerage System.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
222.	June 7, 1901,	*North Main street, from city line to Frost street.*
383.	Oct. 4, "	*Seventh street, from Summit avenue to North Main street.*
384.	" " "	*Douglas and Camden avenues.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced March 31, 1902, namely:

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No. of resolution.	Date of approval.	
572.	Dec. 20, 1895,	*Section 28, Moshassuck Division, Improved Sewerage System.*
382.	Oct. 4, 1901,	*Calais, Edith and Leland streets.*
402.	Nov. 7, "	*Smithfield and Branch avenues.*
417.	" 8, "	*Calais and West Park streets.*
418.	" " "	*President avenue, from Arlington to Wayland.*
82.	Mch. 21, 1902,	*Bellevue avenue, from near Elmwood to Bucklin street.*
83.	" " "	*Hamlin street, from Elmwood avenue to Roger Williams park.*
84.	" " "	*Summit avenue, from Fourth street to Seventh.*
85.	" " "	*Woodbine and Grand View streets.*

The amount of bills approved on account of sewers from January 1 to March 31, 1902, inclusive, was as follows:

FOR CONSTRUCTION.

Regular appropriation	$14,321 91	
Improved sewerage appropriation	22,329 64	
		$36,651 55

Charged as follows:

Material	$7,223 16
Contract reservations	2,687 00
Testing cement	311 25
Sundries	278 73
Tools	12 10
Sewer in Douglas and Camden avenues	179 47
Sewer in Morris avenue and Cypress street	21 30
Sewer in North Main street, from city line to Frost street	4,063 72
Sewer in Seventh street, from Summit avenue to North Main street	3,748 19
Sewer in Smithfield and Branch avenues	29 00
Chemical and laboratory buildings — to erect	143 85
Installation of electric lights at sewage precipitation tanks	626 20
Machinery at sludge press house	955 19
Amount carried forward	$20,279 16

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Amount brought forward	$20,279 16
Sundries, improved sewerage system	33 68
Sewage sludge filter presses	2,153 28
Sewage precipitation tanks — to build	81 49
Sewer in Moshassuck Division, Section 26	4,816 71
Sewer in Moshassuck Division, Section 27	9,258 43
Sludge press house — to erect	28 80
	$36,651 55

For maintenance, ... $23,410 60

Classified as follows:

Cleaning basins and sewers	$5,585 08
Repairing basins and sewers	1,598 26
Cleaning and repairing old drains	975 20
Inspection of connections	639 33
Salary — superintendent	442 00
Barn expenses	436 53
Tools	318 24
Horses, wagons, harnesses, etc	170 14
Office expenses	65 31
Cleaning private connections	63 80
Telephone lines	35 93
Sundries	21 43
Repairs on gate houses	15 84
Car fares	10 00
Filling cisterns, etc	3 80

Ernest Street Station.

Coal and wood	1,105 26
Engineers	832 10
Cleaning screens	645 20
Firemen	456 65
Repairs on boilers	125 69
Cleaning and repairing pumps	123 34
Supplies	93 65
Lights	51 73
Care of grounds	47 89
Repairs on engines	26 93
Care of buildings	6 13

Sewage Precipitation Tanks.

Chemicals	4,843 87
Labor in sludge disposal	2,289 12
Labor on sewage precipitation	1,188 90
Amount carried forward	$22,217 35

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Amount brought forward	$22,217 35	
Miscellaneous supplies	440 81	
Watchman	331 25	
Fuel	156 00	
Lights	154 42	
Care of grounds	90 81	
Repairs on machinery	17 21	
Repairs on buildings	2 75	
	$23,410 60	

The *net* expenditure for construction of sewers to March 31, 1902, inclusive, was $7,051,118 31

The *net* expenditure for maintenance of sewers to March 31, 1902, inclusive, was $834,720 04

Bills deposited with the city treasurer for collection from January 1 to March 31, 1902, inclusive, amounted to . . $948 03

As follows:

Cleaning private connections	$95 75
One horse	40 00
Miscellaneous work	12 65
Pumping out cellars, etc	9 75
Sewer material	775 73
Testing cement	14 15
	$948 03

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $1,196 02

As follows:

Miscellaneous work	$265 34
Cleaning private connections	94 25
One horse	40 00
Pumping out cellars, etc	7 75
Sewer material	786 28
Testing cement	2 40
	$1,196 02

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HIGHWAYS.

Three permits to open streets were issued during the quarter.

January 2nd, the proposal of James Beaton to furnish circular curbing and curb corners was accepted.

January 3d, the proposal of Nelson A. Bennett to furnish circular curbing was accepted.

January 30th, a contract was entered into with The Union Railroad Company to sprinkle with water about sixty miles of the public highways in which railway tracks are laid, for the sum of fifteen cents for each mile of highways sprinkled once its full width of roadway. The work to be done in accordance with a joint resolution of the city council, No. 462, approved December 16, 1901.

Statements have been prepared of the cost of curbstones set, ascertained by the commissioner and certified to the board of aldermen for approval, as follows:

Alger avenue, from Carlisle street to Whitney	$924 08
Arlington avenue, from Lloyd to Olney street	1,363 21
Borden street, from Plain to Beacon avenue	644 71
Bucklin street, from Burnett to Cromwell	2,815 02
Danforth street, from Smith to Vale	1,386 35
Lloyd avenue, from Arlington to Blackstone boulevard	3,734 98
Lloyd avenue, from present end of curbing to Arlington	894 15
Niagara street, from Stanwood to Congress avenue	1,201 36
Olney street, from Hope to Morris avenue	1,054 50
Ontario street, from Broad to Hamilton	1,473 60
Priscilla avenue, from Sterling to Union	2,026 80
Roosevelt street, from Webster avenue to Laurel Hill	1,593 13
Stanwood street, from Broad to Niagara	473 45
Taber avenue, from Frontenac to Irving	570 27
Amount carried forward	$20,155 61

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Amount brought forward	$20,155 61
University avenue, from Arlington to Elmgrove	1,263 89
Angell street, from Grand avenue to Blackstone Park	885 13
Elmgrove avenue, west side, from Hazard to Doyle	169 87
Humboldt avenue, from Irving to Elton street	379 41
Jewett street, from Valley about 540 feet easterly	769 87
Lowell avenue, from Hartford to Plainfield street	3,434 00
Perkins street, from Pearl to A	786 05
Saunders street, from Lester to Perkins	334 79
Swiss street, from Knight to Ridge	878 44
Webster avenue, from Laban street to Eastwood avenue	325 23
West Park street, from Valley about 800 feet easterly	1,108 18
Total	$30,490 47

The following work was in progress March 31, 1902, namely:

To Take Possession.

Date of order.

Nov. 21, 1901, *South Main street, from Pioneer lane to Transit street.*

The following work, ordered by the board of aldermen and city council, had not commenced March 31, 1902, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.

May 16, 1901, *Douglas avenue, from Chad Brown street to Admiral.*

Oct. 17, " *Eastwood avenue, from Heath street to Ralph.*

Jan. 16, 1902, *President avenue, north side, from Wayland avenue about 180 feet westerly.*

To Pave with Granite Blocks.

No. of resolution. Date of approval.

379. Oct. 4, 1901, *Branch avenue, from Veazie street to bridge near Vandewater.*

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Bills approved on account of highways from January 1 to March 31, 1902, inclusive, amounted to $45,814 05

Classified as follows:

Crushed stone — material and labor	$10,819 07	
Cleaning streets	7,125 30	
Removing snow and ice	6,299 14	
Repairs on unpaved streets	5,942 94	
Steam rollers — repairs and supplies	3,376 12	
Tools, implements, etc	3,055 86	
Blacksmith and wheelwright shop	2,835 69	
Barn expenses	2,690 67	
Repairs on stone crushers	542 73	
Labor on material	520 54	
Salary of superintendent	442 00	
Stone — paving and crosswalk	270 98	
Horses, wagons, harnesses, etc	210 97	
Repairs on paved streets	170 82	
Watchman at city yard	156 00	
Sundries	84 82	
Office expenses, city yard	66 67	
Building driveways, etc	66 25	
Car fares	20 00	
Telephone lines	5 35	
		$44,701 92

New Work — Building and Rebuilding Streets, Etc.

Pave with Granite Blocks.

Promenade street, from Park to Leland	1,072 48

Take Possession.

South Main street, from Pioneer lane to Transit street	39 65
	$45,814 05

Bills deposited with the city treasurer for collection from January 1 to March 31, 1902, inclusive, amounted to . . . $1,633 41

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As follows:

Blacksmith work for other departments	$588 11
Boarding horses for other departments	367 32
Street sweepings	359 50
Labor and material	210 25
Manure from barn	73 00
Discharging cargoes at city wharf	33 75
Use of water cart	1 48
	$1,633 41

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $8,341 88

As follows:

Labor and material	$7,078 54
Street sweepings	450 60
Boarding horses for other departments	367 32
Blacksmith and harness work for other departments	356 67
Manure from barn	73 00
Discharging cargoes at city wharf	15 75
	$8,341 88

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from January 1 to March 31, 1902, inclusive, amounted to . . . $1,510 62

Charged as follows:

Repairing sidewalks and gutters	$1,106 82
Concreting sidewalks	403 80
	$1,510 62

Curbing bills deposited with the city treasurer for collection from January 1 to March 31, 1902, inclusive, amounted to . $30,523 67

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During the quarter, coupons from curbing bills collected, have been returned by the city treasurer and receipted for to the amount of $8,308 69

CITY ENGINEER.

Bills approved on account of the city engineer's department from January 1 to March 31, 1902, inclusive, amounted to . $12,163 61

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	10,025 30
Salaries of clerks	789 75
Supplies — drawing material, etc	196 43
Instruments and repairs	19 50
Telephone lines	2 68
Car fares	2 45
Meteorological instruments and repairs	1 85
Sundries	65
	$12,163 61

During the quarter, coupons from bills collected (for service of assistant engineers), have been returned by the city treasurer and receipted for, to the amount of . . $3 36

BRIDGES.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*

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Bills approved on account of bridges from January 1 to March 31, 1902, inclusive, amounted to $4,505 19

Charged as follows:

Acorn street bridge	$1 10
Barn expenses	107 25
Building at city yard	99 18
Cemetery street bridge	1 65
Crawford street bridge	18 34
Gaspee street bridge	8 81
Geneva bridge	2 70
Horses, wagons, harnesses, etc	14 91
Lumber, hardware, etc	33
Manton bridge	7 35
Mill street bridge	18 09
Park avenue bridge	4 69
Point street bridge	715 80
Randall street bridge	1 00
Red bridge	153 50
Rent of keeper's house — Washington bridge	30 00
Salaries — Point street bridge	978 25
Salaries — Red bridge	513 50
Salaries — Washington bridge	486 25
Smith street bridge	22 52
Sundries	447 66
Telephone lines	2 68
Tools	279 48
Wanskuck bridge	5 57
Washington bridge	556 29
West River street bridge	11 43
Weybosset bridge	16 86
	$4,505 19

Bills deposited with the city treasurer for collection from January 1 to March 31, 1902, inclusive, amounted to . . . $79 73

As follows:

Material furnished to sewer department	$77 69
Boxing pipe for water department	2 04
	$79 73

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $79 73

As follows:

Material furnished to sewer department	$77 69
Boxing pipe for water department	2 04
	$79 73

PUBLIC LIGHTS.

Bills approved on account of the public lights from January 1 to March 31, 1902, inclusive, amounted to $72,325 96

Charged as follows:

Arc lights	$54,624 66
Incandescent lights	11,318 94
Welsbach lights	5,706 32
Salaries	455 00
Barn expenses	107 36
Gas for street lights	63 00
Setting and removing gas posts	27 02
Car fares	15 00
Horses, wagons, harnesses, etc.	8 66
	$72,325 96

Bills deposited with the city treasurer for collection from January 1 to March 31, 1902, inclusive, amounted to . . . $14 75

As follows:

Setting and removing gas posts	$8 00
Common lanterns	6 75
	$14 75

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $21 25

As follows:

Setting and removing gas posts	$14 50
Common lanterns	6 75
	$21 25

PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from January 1 to March 31, 1902, inclusive, amounted to . . . $5,152 17

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,109 92
Office supplies	114 57
Telephone lines	2 68
	$5,152 17

ROBERT E. SMITH,

Commissioner.

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SEVENTY-EIGHTH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING JUNE 30, 1902.

The Providence Press:
Snow & Farnham, City Printers,
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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., July 1, 1902.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-eighth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending June 30, 1902.

WATER WORKS.

April 17th, the proposal of John A. Nisbet to cut the grass at Hope reservoir during the year 1902, in accordance with specifications, for the sum of $225.00, and $35.00 for each additional cutting required, was accepted.

April 18th, the proposal of John R. White & Son, Inc., to furnish and deliver from 450 to 500 tons Pittston egg coal at Hope pumping station for the sum of $4.80 per ton, was accepted.

May 15th, the proposal of Coffin Valve Company to furnish six 6-inch Walker post hydrants, was accepted. Amount, $360.00.

June 25th, the proposal of Builders Iron Foundry to furnish and deliver at Pettaconset an 8-inch Venturi meter complete, with register and chart recorder, to be set on the 8-inch main that supplies the state institutions at Cranston, for the sum of $586.50, was accepted.

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The average daily consumption of water during the quarter was 10,944,229 gallons.

Water pipes were laid during the quarter as follows:

12-INCH.

In Niantic avenue; and in Douglas avenue in the town of North Providence	896.88 feet.

8-INCH.

In Admiral, Killingly and Smith streets; and Bellevue avenue; in Narragansett boulevard, Dyer, Laurel Hill and Puritan avenues in the town of Cranston, and in Douglas avenue in the town of North Providence	3,172.14 feet.

6-INCH.

In Catalpa road, Edith, Faith, Garden, Hassan, Ham, Leland, Pumgansett, Smith, Seventh, Sibley, Stanwood, Tell streets; Hillhurst avenue; in street opposite Sefton drive; Transit street, Cleveland, Dyer, Laurel Hill, Princess, Puritan, Standish and Wheeler avenues in the town of Cranston	4,186.79 feet.
Total	8,255.81 feet.

or, 1.563 + miles.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	99,042.35 feet.
10-inch	15,057.14 feet.
8-inch	280,994.58 feet.
6-inch	1,200,864.92 feet.
Total	1,754,841.12 feet.

or, 332.356 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

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24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Ten fire hydrants have been set during the quarter, one in each of the following locations:

Bellevue avenue, north side, 340 feet west of west building line of Elmwood avenue.

Catalpa road, east side, 151 feet north of north building line of Cypress street.

Hartford avenue, south side, 16 feet west of west building line of Ida street.

Hartford avenue, south side, on east building line of Lowell avenue.

Harris avenue, west side, 293 feet south of south building line of Atwells avenue.

Laurel Hill avenue, east side, 157 feet north of north building line of Magdalen street.

Narragansett boulevard, Cranston, east side, 3 feet south of south building line of Smith street.

Niantic avenue, east side, 2.5 feet south of south building line of Neville street.

Stanwood street, south side, 189 feet east of east building line of Hamilton street.

Smith street, North Providence, southwest corner of Second street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now nineteen hundred and thirty-three — eighteen hundred and forty-three flush, and ninety post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter, two hundred water meters were set, of which number forty-four were to replace other meters. The use of five meters was discontinued.

The following meters were in use at the close of the quarter:

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Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1½-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,385	485	117	13	5	.....	.....	.....	3,005
Ball & Fitts, rotary	.....	.....	6	7	.....	2	1	.....	16
Crown	9,017	993	290	133	33	20	23	.....	10,509
Empire	693	113	52	41	10	.....	1	.....	910
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	10	23	15	3	51
Thomson	3,707	423	76	54	21	7	7	2	4,297
Trident	74	.....	1	.....	.....	.....	.....	.....	75
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	15,877	2,015	543	248	80	52	47	5	18,867

Eight plumbers' licenses were issued during the quarter, making the total number one hundred and twenty-eight, all of which expire December 31, 1902.

Eight hundred and twenty-nine permits to do plumbing were issued during the quarter.

One hundred and ninety-five applications for water were made during the quarter, making the total number June 30, 1902, twenty-five thousand one hundred and sixty-four.

The number of new service stops opened during the quarter was one hundred and ninety-six.

The total number of service stops opened to June 30, 1902, inclusive, was twenty-four thousand four hundred and seventy-four. The number in actual use June 30, 1902, was twenty-two thousand five hundred and twenty-nine.

The amount of bills approved on account of water works from April 1 to June 30, 1902, inclusive, was $34,542.73.

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Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$3,277 05	
Sundries	621 77	
Engineers	606 53	
Firemen	476 30	
Superintendence	299 00	
Care of grounds	161 51	
Worthington high-duty engine	114 54	
Oil, waste and packing	87 53	
Labor on fuel	63 00	
Corliss pumping engine and house	49 06	
Barn expenses	48 04	
Cornish engine house	9 85	
Repairs on boilers	4 30	
Real estate	3 30	
Lights	63	
		$5,822 41

SOCKANOSSET RESERVOIR.

Watchman	$182 00	
Sundries	155 52	
		337 52

HOPE PUMPING STATION.

Coal and wood	$1,987 70	
Firemen	483 35	
Engineers	299 00	
Lights	71 82	
Sundries	64 22	
Repairs on boilers	23 36	
Oil, waste and packing	6 36	
Care of grounds	6 00	
Holly pumping engine	18	
		2,941 99

HOPE RESERVOIR.

Watchman	$204 75	
Sundries	155 63	
		360 38

FRUIT HILL RESERVOIR.

Sundries	$333 50	
Watchman	204 75	
		538 25
Amount carried forward		$10,000 55

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Amount brought forward		$10,000 55

Meter Department.

Water meters	$3,013 36	
Setting and repairing meters	1,178 37	
		4,191 73

Pipe Line and Service Stops.

Repairs	$3,396 63	
Superintendence — salaries	848 25	
		4,244 88

Pipe Yard.

Fire hydrants, boxes and covers	$4,538 27	
Laying water pipe	4,026 56	
Special castings	1,440 78	
Laying service pipe	1,310 35	
Taps and stops	513 83	
Stop valves	259 50	
Labor on and carting pipe	201 95	
Tools	179 68	
Repairs on pipe yard buildings	80 25	
Patterns for special castings	39 60	
Pipe yard, office expenses	10 92	
		12,601 69

Miscellaneous.

Clerks' and inspectors' salaries	$1,532 80	
Barn expenses	771 84	
Prevention of defilement of the Pawtuxet	549 99	
Horses, wagons, harnesses, etc	258 51	
Telephone lines	137 68	
Public drinking fountains and troughs	98 98	
Car fares	90 00	
Sundries	64 08	
		3,503 88
		$34,542 73

The total expenditures to June 30, 1902, inclusive, was $9,258,245 13

The *net* expenditure for maintenance from April 1 to June 30, 1902, inclusive, was $27,356 70

The *net* expenditure for maintenance to June 30, 1902, inclusive, was $1,800,849 97

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The value of the water works system, January 1, 1902, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	132,281 46	
Sockanosset, Hope and Fruit Hill reservoirs	721,563 84	
Main lines and distribution pipes	2,726,494 03	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	22,371 35	
		$3,959,379 68

Bills deposited with the city treasurer for collection from April 1 to June 30, 1902, inclusive, amounted to . . . $76,053 03

As follows:

Water	$68,841 14
Water meters	4,191 75
Setting and repairing meters	1,558 75
Labor and material, laying services, etc	1,069 52
Repairs on pipe line	172 36
Rent of real estate	93 00
Standing grass at Pettaconset	50 00
Penalties	38 00
Permanently closing service stops	15 00
Cast iron water pipe	12 26
Loam from land at Pawtuxet	11 25
	$76,053 03

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $75,727 73

As follows:

Water	$68,545 70
Water meters	4,225 00
Setting and repairing meters	1,580 64
Labor and material, laying services, etc	1,060 94
Rent of real estate	143 00
Repairs on pipe line	100 94
Penalties	38 00
Cast iron water pipe	12 26
Loam from land at Pawtuxet	11 25
Permanently closing service stops	10 00
	$75,727 73

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SEWERS.

During the quarter ending June 30, 1902, three hundred and thirty-eight permits were issued to drain layers — one hundred and sixty-seven for new work and one hundred and seventy-one for extension and repairs of drains.

Ten drain layers' licenses were issued during the quarter, making the total number one hundred and forty-four, all of which expire December 31, 1902.

May 1st, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials.]

To Frederick E. Shaw.

No. of resolution.	Date of approval.		
82.	Mch. 21, 1902,	*Bellevue avenue, from near Elmwood to Bucklin street.*	$796 10
83.	" " "	*Hamlin street, from Elmwood avenue to Roger Williams park.*	962 80
84.	" " "	*Summit avenue, from Fourth street to Seventh,* . .	3,020 75
85.	" " "	*Woodbine and Grand View streets,*	4,265 50
86.	April 4, "	*Suffolk street, from Salina to Admiral* . . .	356 60
123.	" 18, "	*Oxford street, from near Eddy to Allen's avenue.* .	2,382 40
124.	" " "	*Laurel Hill avenue from Pocasset to Plainfield street.*	991 60

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No. of resolution.	Date of approval		
125.	April 18, 1902,	*Phillips street, from near Hope to Morris avenue*	$1,358 50
126.	" " "	*Sears avenue, from Atwells to Rangely,*	1,323 20
127.	" " "	*Tenth street, from North Main to Highland avenue,*	1,168 70
128.	" " "	*Unit street, from Maynard to Manton avenue,*	2,503 60

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
222.	June 7, 1901,	*North Main street, from city line to Frost street,*	May 24, 1902.
382.	Oct. 4, "	*Calais, Edith and Leland streets.*	May 23, 1902.
383	" " "	*Seventh street, from Summit avenue to North Main street,*	April 5, 1902.
417.	Nov. 8, "	*Calais and West Park streets,*	May 13, 1902.
83.	Mch. 21, 1902,	*Hamlin street, from Elmwood avenue, to Roger Williams park,*	June 10, 1902.

At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
572.	Dec. 20, 1895,	*Section 28, Moshassuck Division, Improved Sewerage System.*
349.	Sept. 12, 1900,	*Section 26, Moshassuck Division, Improved Sewerage System,*
381.	Oct. 4, 1901,	*Section 27, Moshassuck Division, Improved Sewerage System.*

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Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
384.	Oct. 4, 1901,	*Douglas and Camden avenues.*
402.	Nov. 7, "	*Smithfield and Branch avenues.*
85.	Mch. 21, 1902,	*Woodbine and Grand View streets.*
124.	April 18, "	*Laurel Hill Avenue, from Pocasset to Plainfield street.*
128.	" " "	*Unit street, from Maynard to Manton avenue.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced June 30, 1902, namely:

No. of resolution.	Date of approval.	
418.	Nov. 8, 1901,	*President avenue, from Arlington to Wayland.*
82.	Mch. 21, 1902,	*Bellevue avenue, from near Elmwood to Bucklin street.*
84.	" " "	*Summit avenue, from Fourth street to Seventh.*
86.	April 4, "	*Suffolk street, from Salina to Admiral.*
123.	" 18, "	*Oxford street, from near Eddy to Allens avenue.*
125.	" " "	*Phillips street, from near Hope to Morris avenue.*
126.	" " "	*Sears avenue, from Atwells to Rangeley.*
127.	" " "	*Tenth street, from North Main to Highland avenue.*
195.	June 6, "	*Primrose, Walnut and Byron streets.*
196.	" " "	*India and South Main streets, Improved Sewerage System.*
197.	" " "	*Massachusetts avenue, from Virginia to Broad street.*
198.	" " "	*Moses Brown street, from [illegible] to South Angell.*

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The amount of bills approved on account of sewers from April 1 to June 30, 1902, inclusive, was as follows:

FOR CONSTRUCTION.

Regular appropriation	$28,906 25	
Improved sewerage appropriation	38,084 59	
		$66,990 84

Charged as follows:

Material	$5,736 28
Contract reservations	2,337 00
Testing cement	283 00
Sundries	180 85
Additional catch-basins	122 52
Tools	30
Sewer in Calais, Edith and Leland streets	3,224 97
Sewer in Calais and West Park streets	1,691 46
Sewer in Douglas and Camden avenues	1,180 68
Sewer in Hamlin street, from Elmwood avenue to Roger Williams park	1,085 12
Sewer in Laurel Hill avenue, from Pocasset to Plainfield street	1,135 50
Sewer in Morris avenue and Cypress street	1,686 58
Sewer in North Main street, from city line to Frost street	7,313 28
Sewer in Seventh street, from Summit avenue to North Main street	1,691 34
Sewer in Smithfield and Branch avenues	2,548 13
Sewer in Unit street, from Maynard to Manton avenue	870 92
Sewer in Woodbine and Grand View streets	2,706 80
Machinery for sludge press house	328 21
Sewer in Moshassuck Division, Section 26	4,275 35
Sewer in Moshassuck Division, Section 27	28,107 14
Sewer in Moshassuck Division, Section 28	472 80
Sundries, improved sewerage system	12 61
	$66,990 84

For maintenance, ... $28,465 49

Classified as follows:

Cleaning basins and sewers	$6,282 98
Repairing basins and sewers	2,461 71
Cleaning and repairing old drains	1,631 58
Inspection of connections	693 03
Amount carried forward	$11,069 30

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Amount brought forward	$11,069 30
Barn expenses	$474 22
Salary — superintendent	442 00
Tools	366 02
Horses, wagons, harnesses, etc.	174 59
Sundries	173 73
Cleaning private connections	42 00
Telephone lines	35 93
Office expenses	18 17
Repairs on gate houses	3 30
Repairs on buildings — sewer maintenance yard	1 35

ERNEST STREET STATION.

Engineers	848 16
Coal and wood	628 01
Cleaning screens	627 05
Supplies	601 03
Firemen	427 49
Cleaning and repairing pumps	335 14
Care of grounds	170 20
Repairs on boilers	53 87
Lights	35 98
Repairs on engines	23 13
Care of buildings	5 43

SEWAGE PRECIPITATION TANKS.

Chemicals	5,588 12
Labor in sludge disposal	3,054 25
Labor on sewage precipitation	1,301 73
Miscellaneous supplies	1,292 22
Watchman	328 25
Repairs on machinery	117 93
Care of grounds	101 23
Lights	83 11
Repairs on buildings	23 05
Care of buildings	16 50
Repairs on tanks	3 00
	$28,465 49

The *net* expenditure for construction of sewers to June 30, 1902, inclusive, was $7,117,980 62

The *net* expenditure for maintenance of sewers to June 30, 1902, inclusive, was $863,023 80

Bills deposited with the city treasurer for collection from April 1 to June 30, 1902, inclusive, amounted to . . $263 11

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As follows:

Miscellaneous work	$82 78
Cleaning private connections	37 75
Filling cisterns, etc	15 25
Sewer material	73 84
Laying drains to curbstone	46 49
Testing cement	7 00
	$263 11

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $290 26

As follows:

Miscellaneous work	$89 23
Cleaning private connections	53 50
Filling cisterns, etc	19 00
Sewer material	73 84
Laying drains to curbstone	46 49
Testing cement	8 20
	$290 26

HIGHWAYS.

One permit to open street was issued during the quarter.

June 27th, statements of the cost of concreting sidewalks in sundry streets, with ten per centum added to cover the cost of assessing and collecting, were certified to the assessors of taxes, aggregating the sum of $1,535.03.

During the quarter, the following work was completed:

To Take Possession.

Date of order.

Nov. 21, 1901, *South Main street, from Pioneer lane to Transit street.*

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The following work was in progress June 30, 1902, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
May 16, 1901,	*Douglas avenue, from Chad Brown street to Admiral.*

To Rebuild.

No. of resolution.	Date passed.	
175.	May 15, 1902,	*South Main street, from near Pioneer lane to near Transit street.*

The following work, ordered by the board of aldermen and city council, had not commenced June 30, 1902, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
Oct. 17, 1901,	*Eastwood avenue, from Heath street to Ralph.*
Jan. 16, 1902,	*President avenue, north side, from Wayland avenue about 180 feet westerly.*
June 5, "	*Leland street, from Promenade to Edith.*
" 19, "	*Edith street, from Calais to Holden.*
" " "	*Hope street, from Doyle avenue to Phillips and Pleasant streets.*
" " "	*Smithfield avenue, from Branch avenue to the Moshassuck river.*

To Pave with Granite Blocks.

No. of resolution.	Date of approval.	
379.	Oct. 4, 1901,	*Branch avenue, from Veazie street to bridge near Vandewater.*

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Bills approved on account of highways from April 1 to June 30, 1902, inclusive, amounted to $80,656 97

Classified as follows:

Repairs on unpaved streets	$21,598 19	
Cleaning streets	19,534 02	
Crushed stone — material and labor	14,677 81	
Repairs on paved streets	5,810 65	
Barn expenses	2,929 36	
Blacksmith and wheelwright shop	2,556 12	
Stone — paving and crosswalk	1,645 53	
Steam rollers — repairs and supplies	1,352 95	
Repairs on stone crushers	1,329 99	
Tools, implements, etc	968 66	
Labor on material	661 27	
Horses, wagons, harnesses, etc	509 39	
Salary of superintendent	442 00	
Watering streets	165 01	
Watchman at city yard	156 00	
Sundries	91 77	
Building driveways, etc	81 23	
Repairs on buildings, highway yard	61 58	
Fencing streets — material and labor	42 15	
Car fares	35 00	
Office expenses, city yard	27 17	
Telephone lines	5 35	
		$74,681 20

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Douglas avenue, from Chad Brown street to Admiral	$2,921 81	
Eastwood avenue, from Heath street to Ralph	66 30	
Smithfield avenue, from Branch to bridge over Moshassuck river	419 00	
		$3,407 11

Pave with Granite Blocks.

Promenade street, from Park to Leland	712 43

Rebuild.

South Main street, from near Pioneer lane to near Transit street	1,856 23
	$80,656 97

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Bills deposited with the city treasurer for collection from April 1 to June 30, 1902, inclusive, amounted to . . . $3,333 66

As follows:

Labor and material	$2,639 07
Street sweepings	298 00
Boarding horses for other departments	281 14
Manure from barn	73 00
Discharging cargoes at city wharf	19 50
Removing trees	11 63
Use of horse roller	5 92
Old oil barrels	5 40
	$3,333 66

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $3,163 60

As follows:

Labor and material	$1,873 30
Blacksmith and harness work for other departments	579 71
Street sweepings	317 00
Boarding horses for other departments	281 14
Manure from barn	73 00
Discharging cargoes at city wharf	19 50
Removing trees	11 63
Old oil barrels	5 40
Use of horse roller	2 92
	$3,163 60

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from April 1 to June 30, 1902, inclusive, amounted to . . . $11,302 93

Charged as follows:

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Granite curbing	$8,263 57	
Repairing sidewalks and gutters	1,939 88	
Concreting sidewalks	1,099 48	
	$11,302 93	

Curbing bills deposited with the city treasurer for collection from April 1 to June 30, 1902, inclusive, amounted to . $132 73

During the quarter, coupons from curbing bills have been returned by the city treasurer and receipted for to the amount of $3,306 32

CITY ENGINEER.

Bills approved on account of the city engineer's department from April 1 to June 30, 1902, inclusive, amounted to . $12,730 93

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	9,884 13
Salaries of clerks	789 75
Car fares	404 75
Instruments and repairs	254 35
Supplies — drawing material, etc	249 28
Carriage hire	16 50
Sundries	4 49
Telephone lines	2 68
	$12,730 93

BRIDGES.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*

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The following work had not commenced at the end of the quarter, namely:

TO BUILD BRIDGE AND APPROACHES.

No. of resolution. Date of approval.

220. June 20, 1902, *Over Woonasquatucket river at Egan and Chatlett streets.*

May 15th, the proposal of William M. Harris, Jr., to furnish and deliver on the city wharf 110,412 feet B. M. yellow pine lumber for the sum of $27.75 per M., was accepted.

May 15th, the proposal of E. A. Card, Groton, Conn., to furnish and deliver 525 chestnut or white oak piles, for the sum of seventeen cents per lineal foot, was accepted and a contract subsequently executed.

Bills approved on account of bridges from April 1 to June 30, 1902, inclusive, amounted to $7,826 22

Charged as follows:

Acorn street bridge	$46 34
Barn expenses	119 20
Branch avenue bridge	11 99
Burnside bridge	25 97
Building at city yard	221 24
Charles street bridge	15 95
Crawford street bridge	99 45
Delaine street bridge	275 32
Eagle street bridge	16 36
Exchange bridge	87 46
Francis street bridge	63 16
Gaspee street bridge	1 04
Hawkins street bridge	17 60
Horses, wagons, harnesses, etc	38 08
Lumber, hardware, etc	201 36
Manton avenue bridge	33 89
Nash lane bridge	51 00
Amount carried forward	$1,325 41

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Amount brought forward	$1,325 41
Park street bridge	505 19
Point street bridge	426 87
Promenade street bridge	60 59
Randall street bridge	93 60
Red bridge	594 29
Rent of keeper's house — Washington bridge	30 00
Salaries — Point street bridge	978 25
Salaries — Red bridge	513 50
Salaries — Washington bridge	484 50
Smith street bridge	142 13
Stevens street bridge	10 18
Sundries	75 50
Telephone lines	2 68
Tools	134 41
Valley street bridge — north span	227 92
Valley street bridge — south span	195 90
Veazie street bridge	8 75
Washington bridge	1,912 99
Washington row bridge	32 94
West River street bridge	3 42
Weybosset bridge	52 72
Whelden street bridge	14 48
	$7,826 22

Bills deposited with the city treasurer for collection from April 1 to June 30, 1902, inclusive, amounted to $10 98

As follows:

Repairs on building adjoining Smith street bridge.	$9 98
Old lumber	1 00
	$10 98

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $10 98

As follows:

Repairs on building adjoining Smith street bridge.	$9 98
Old lumber	1 00
	$10 98

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PUBLIC LIGHTS.

Bills approved on account of the public lights from April 1 to June 30, 1902, inclusive, amounted to $73,104 76

Charged as follows:

Arc lights	$55,247 20
Incandescent lights	11,325 64
Welsbach lights	5,914 35
Salaries	455 00
Setting and removing gas posts	64 74
Gas for street lights	47 88
Horses, wagons, harnesses, etc.	23 86
Office furniture and supplies	20 34
Supplies for repairing posts and lanterns	5 75
	$73,104 76

Bills deposited with the city treasurer for collection from April 1 to June 30, 1902, inclusive (for one common lantern), amounted to $3 00

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $5 60

As follows:

One common lantern	[illegible]
Setting and removing gas posts	[illegible]
	[illegible]

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PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from April 1 to June 30, 1902, inclusive, amounted to . . . $5,097 06

Charged as follows:

Salaries of commissioner and secretary	$1,925 00	
Salaries of office assistants	3,026 95	
Office supplies	142 43	
Telephone lines	2 68	
	$5,097 06	

CONTINGENCIES.

Bills approved for the inspection of electric wires from April 1 to June 30, 1902, inclusive, have been paid from the appropriation for contingencies to the amount of $31 82

ROBERT E. SMITH,

Commissioner.

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SEVENTY-NINTH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING SEPTEMBER 30, 1892.

The Providence Press:
SNOW & FARNHAM, CITY PRINTERS,
75 Washington Street.
1892.

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SEVENTY-NINTH

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63 Washington Street,
1902.

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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., October 1, 1902.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the seventy-ninth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending September 30, 1902.

WATER WORKS.

July 2d, the proposal of The National Supply Company, of Chicago, was accepted to equip seven boilers at the Pettaconsett pumping station for the use of oil as a fuel, for the sum of three thousand dollars, A contract was later entered into with the Standard Oil Company to furnish fuel oil for same for steam purposes.

July 14th, the offer of Henry F. Jenks, of Pawtucket, R. I., to furnish and set a drinking fountain with ice tank at Hopkins park, was accepted. Amount, $350.

July 15th, the proposal of Edward W. Everson and Frederick E. Shaw, for a slow sand filtration plant at Pettaconset pumping station, authorized by Chapter 132 of the Ordi-

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nances, approved May 6, 1902, was accepted, and a contract subsequently executed. Amount, $196,249.80.

July 18th, the proposal of The Ludlow Valve Manufacturing Company, to furnish valves, flanged and spigot pipes, for the filtration plant, was accepted. Amount of contract, $4,457.50.

July 25th, the proposal of Builders Iron Foundry to furnish and deliver at Pettaconset pumping station, six 20-inch Venturi meters with special indicating devices, for the filtration plant, for the sum of $2,100, was accepted.

July 28th, the proposal of Chase-Shawmut Company of Boston, to furnish an electrical pumping plant for the filtration plant at Pettaconset, was accepted and a contract subsequently executed. Amount, $7,850.

August 21st, the proposal of Warren Foundry and Machine Company to furnish and deliver 300 pieces 8-inch B cast iron water pipes for the sum of $34.50 per ton of 2,240 pounds, was accepted.

September 11th, the proposal of the Library Bureau, of Boston, to furnish cards and oak cases for the card system of records and accounts, was accepted. Amount, $921.

The average daily consumption of water during the quarter was 11,908,778 gallons.

Water pipes were laid during the quarter as follows:

12-INCH.

In Park avenue in the town of Cranston..... 220.30 feet.

8-INCH.

In Olneyville square; and in Douglas avenue in the town of North Providence..... 2,031.06 feet.

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6-INCH.

In Berkley, Cedar, Frederick, Hanover, Harlam, Manchester, Rachel, Rowan, Stone and Well streets; Belair, Rankin and Slater avenues; in Auburn and Garden streets; Laurel Hill and Orchard avenues in the town of Cranston	3,322.61 feet.
Total	5,573.97 feet.

or, 1.055 + miles.

Water pipes were removed during the quarter as follows:

6-INCH.

From Bacon, Lawton and Crescent streets	966.11 feet.

or .183 — mile.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet.
16-inch	34,084.95 feet.
12-inch	99,262.65 feet.
10-inch	15,057.14 feet.
8-inch	283,025.64 feet.
6-inch	1,203,221.42 feet.
Total	1,759,448.98 feet.

or, 333.228 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work:

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

5.569 + miles.

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Sixteen fire hydrants have been set during the quarter, one in each of the following locations:

Derry street, east side, 200 feet north of Geoffrey's court.
Douglas avenue, North Providence, west side, 391 feet south of first street north of city line.
Douglas avenue, North Providence, west side, on south building line of Goldsmith street.
Douglas avenue, North Providence, west side, northwest corner Cushing street.
Douglas avenue, North Providence, west side, 98 feet north of building line of Carl avenue.
Douglas avenue, North Providence, west side, 59 feet south of building line of Mineral Spring avenue.
Douglas avenue, North Providence, west side, 492 feet south of building line of Mineral Spring avenue.
Florence street, west side, 182 feet south of building line of Amherst street.
Hope street, east side, on range of south line of Sixth street.
Manchester street, north side, 362 feet east of Eddy street.
Rachel street, east side, 137 feet south of building line of Autumn street.
Rankin avenue, east side, 813 feet north of building line of Chalkstone avenue.
Regent avenue, southeast corner of Alton street.
Roger Williams avenue, northwest corner of Narragansett avenue.
Standish avenue, east side, 2 feet south of building line of Manomet street.
Stone street, south side, 316 feet southwest of line of Hebron street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now nineteen hundred and forty-nine — eighteen hundred and fifty-three flush, and ninety-six post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter, two hundred and thirty water meters were set, of which number thirty-two were to replace other meters. The use of fourteen meters was discontinued.

The following meters were in use at the close of the quarter:

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Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1¼-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,361	484	116	13	5	.....	.....	.....	2,979
Ball & Fitts, rotary	.....	.....	6	7	.....	2	1	.....	16
Crown	9,093	1,005	299	134	33	22	23	1	10,610
Empire	731	113	53	42	10	.....	1	.....	950
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	11	27	15	3	56
Thomson	3,769	423	76	54	21	7	7	2	4,359
Trident	76	.....	1	.....	.....	.....	.....	.....	77
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	16,031	2,026	552	250	81	58	47	6	19,051

Five plumbers' licenses were issued during the quarter, making the total number one hundred and thirty-three, all of which expire December 31, 1902.

Seven hundred and twenty plumbing permits were issued during the quarter.

One hundred and seventy applications for water were made during the quarter, making the total number September 30, 1902, twenty-five thousand three hundred and thirty-four.

The number of new service stops opened during the quarter was one hundred and ninety-two.

The total number of service stops opened to September 30, 1902, inclusive, was twenty-four thousand six hundred and ninety-six. The number in actual use September 30, 1902, was twenty-two thousand seven hundred and thirty-one.

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The amount of bills approved on account of water works from July 1 to September 30, 1902, inclusive, was:

For maintenance, ... $32,331 21

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$4,364 40	
Installation of fuel oil	2,147 49	
Sundries	888 26	
Engineers	693 45	
Firemen	557 10	
Superintendence	308 86	
Oil, waste and packing	162 10	
Barn expenses	69 99	
Labor on fuel	66 10	
Care of grounds	64 18	
Corliss pumping engine and house	61 44	
Worthington high-duty engine	30 19	
Repairs on boilers	9 60	
Lights	6 84	
		$9,430 00

SOCKANOSSET RESERVOIR.

Watchman	$188 00	
Sundries	12 60	
		200 60

HOPE PUMPING STATION.

Firemen	$434 60	
Sundries	332 82	
Engineers	308 86	
Lights	52 50	
Oil, waste and packing	15 25	
Repairs on boilers	2 18	
Holly pumping engine	1 13	
		1,147 34

HOPE RESERVOIR.

Sundries	$255 83	
Watchman	211 50	
		467 33

FRUIT HILL RESERVOIR.

Sundries	$287 25	
Watchman	211 50	
		498 75
Amount carried forward		$11,744 02

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Amount brought forward		$11,744 02

METER DEPARTMENT.

Water meters	$3,165 89	
Setting and repairing meters	1,052 34	
		4,218 23

PIPE LINE AND SERVICE STOPS.

Repairs	$5,000 98	
Superintendence — salaries	876 22	
		5,877 20

PIPE YARD.

Laying water pipe	$3,338 84	
Laying service pipe	1,237 27	
Special castings	945 91	
Pig lead and tin	527 66	
Fire hydrants, boxes and covers	360 00	
Labor on and carting pipe	148 97	
Tools	117 52	
Repairs on pipe yard buildings	25 99	
Pipe yard, office expenses	5 67	
Stop valves	30	
		6,708 13

MISCELLANEOUS.

Clerks' and inspectors' salaries	$1,595 31	
Inspection of water pipes with reference to electrolysis	550 00	
Prevention of defilement of the Pawtuxet	549 99	
Barn expenses	483 20	
Horses, wagons, harnesses, etc	269 99	
Telephone lines	137 68	
Car fares	125 00	
Public drinking fountains and troughs	69 40	
Sundries	3 06	
		3,783 63
		$32,331 21

For construction, ... $3,220 26

Charged as follows:

Installation of sand filtration plant at Pettaconset	$3,220 26	

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The total expenditures to September 30, 1902, inclusive, was $9,293,796 60

The *net* expenditure for maintenance from July 1, to September 30, 1902, inclusive, was.....	$25,762 32
The *net* expenditure for maintenance to September 30, 1902, inclusive, was.....	1,826,612 29
The *net* expenditure for construction from July 1, to September 30, 1902, inclusive, was.....	3,220 26

The value of the water works system, January 1, 1902, as estimated by the city engineer, was as follows:

Pettaconset pumping station.....	$340,694 00	
Hope pumping station	132,281 46	
Sockanosset, Hope and Fruit Hill reservoirs.....	721,563 84	
Main lines and distribution pipes.....	2,726,494 03	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies.....	22,371 35	
		$3,959,379 68

Bills deposited with the city treasurer for collection from July 1 to September 30, 1902, inclusive, amounted to . . . $78,993 31

As follows:

Water.....	$71,666 99
Water meters.....	4,542 75
Setting and repairing meters.....	1,557 27
Labor and material, laying services, etc., ...	1,016 94
Rent of real estate.....	88 00
Repairs on pipe line	81 36
Penalties.....	40 00
	$78,993 31

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $78,092 59

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As follows:

Water	$71,483 70
Water meters	3,971 50
Setting and repairing meters	1,651 35
Penalties	440 00
Labor and material, laying services, etc.	306 69
Repairs on pipe line	158 85
Rent of real estate	75 50
Permanently closing service stops	5 00
	$78,092 59

The amount of bills approved on account of water works for the fiscal year ending September 30, 1902, inclusive, was:

For maintenance, ... $159,030 42

Classified as follows:

PETTACONSET PUMPING STATION.

Coal and wood	$12,971 34	
Sundries	4,583 57	
Engineers	2,484 70	
Installation of fuel oil	2,147 49	
Firemen	1,969 80	
Superintendence	1,199 29	
Care of grounds	536 64	
Oil, waste and packing	401 59	
Labor on fuel	282 48	
Barn expenses	242 91	
Worthington high-duty engine	240 90	
Corliss pumping engine and house	176 48	
Repairs on boilers	63 37	
Real estate	46 50	
Cornish engine house	31 73	
Lights	8 10	
		$27,386 89

SOCKANOSSET RESERVOIR.

Watchman	$730 00	
Sundries	307 72	
		$1,037 72
Amount carried forward		$28,424 61

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Amount brought forward		$28,424 61
Hope Pumping Station.		
Coal and wood	$2,259 49	
Firemen	1,718 35	
Engineers	1,199 29	
Sundries	447 54	
Lights	252 00	
Repairs on boilers	30 88	
Oil, waste and packing	23 50	
Care of grounds	6 00	
Holly pumping engine	3 15	
		5,940 20
Hope Reservoir.		
Watchman	$821 25	
Sundries	699 39	
		1,520 64
Fruit Hill Reservoir.		
Sundries	$1,087 44	
Watchman	821 25	
		1,908 69
Meter Department.		
Water meters	$16,093 93	
Setting and repairing meters	4,899 14	
		20,993 07
Pipe Line and Service Stops.		
Repairs	$15,546 55	
Superintendence — salaries	3,402 33	
		18,948 88
Pipe Yard.		
Cast iron water pipe	$23,824 29	
Laying water pipe	12,465 27	
Fire hydrants, boxes and covers	5,225 94	
Laying service pipe	4,547 39	
Special castings	4,278 57	
Service pipe	2,964 63	
Stop valves	1,843 19	
Pig lead and tin	1,817 48	
Taps and stops	1,383 99	
Labor on and carting pipe	705 32	
Tools	637 51	
Pipe yard, office expenses	189 79	
Patterns for special castings	117 23	
Repairs on pipe yard buildings	114 06	
		60,114 66
Amount carried forward		$137,850 75

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Amount brought forward		$137,850 75

MISCELLANEOUS.

Town of Cranston, tax	$7,077 69	
Clerks' and inspectors' salaries	6,134 00	
Barn expenses	2,564 40	
Prevention of defilement of the Pawtuxet	2,199 96	
Horses, wagons, harnesses, etc	909 24	
Telephone lines	550 72	
Inspection of water pipes with reference to electrolysis	550 00	
Car fares	405 00	
Town of North Providence, tax	400 00	
Public drinking fountains and troughs	171 66	
Analyses of water	90 00	
Sundries	72 67	
Real estate at Pawtuxet	54 33	
		21,179 67
		$159,030 42

For construction, ... $3,220 26

Charged as follows:

Installation of sand filtration plant at Pettaconset.	$3,220 26

SEWERS.

During the quarter ending September 30, 1902, three hundred and thirty-eight permits were issued to drain layers — one hundred and seventy-three for new work and one hundred and sixty-five for extension and repairs of drains.

Five drain layers' licenses were issued during the quarter, making the total number one hundred and forty-nine, all of which expire December 31, 1902.

August 5th, McKinnon Pile Driving and Bridge Building Company transferred and assigned its interest in the contract

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for building Section 29, Seekonk Division, Improved Sewerage System, to Edward W. Everson with the consent of the Commissioner.

August 23d, the proposal of J. P. Williams to furnish a narrow gauge H. K. Porter locomotive, for use at the sewage precipitation tanks, for the sum of $1,200, was accepted.

July 31st, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials.]

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
195.	June 6, 1902,	*Primrose, Walnut and Byron streets,* . . .	$1,081 60
197.	" " "	*Massachusetts avenue, from Virginia to Broad street,* .	911 80
198.	" " "	*Moses Brown street, from Angell to South Angell,* .	305 40

TO MCKINNON PILE DRIVING AND BRIDGE BUILDING CO.

196.	June 6, 1902,	*Section 29, Seekonk Division, Improved Sewerage System,*	$13,890 50

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
349.	Sept. 12, 1900,	*Section 26, Moshassuck Division, Improved Sewerage System,* . .	Aug. 26, 1902.

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No. of resolution.	Date of approval.		Date of completion.
402.	Nov. 7, 1901,	*Smithfield and Branch avenues,*	July 25, 1902.
418.	" 8, 1901,	*President avenue, from Arlington to Wayland,*	Sept. 30, 1902.
82.	Mch. 21, 1902,	*Bellevue avenue, from near Elmwood to Bucklin street,*	July 17, 1902.
84.	" " "	*Summit avenue, from Fourth street to Seventh,*	Sept. 18, 1902.
85.	" " "	*Woodbine and Grand View streets,*	Aug. 16, 1902
86.	April 4, "	*Suffolk street, from Salina to Admiral,*	July 24, 1902
123.	" 18, "	*Oxford street, from near Eddy to Allens avenue,*	Sept. 4, 1902.
124.	" " "	*Laurel Hill avenue, from Pocasset to Plainfield street,*	July 2, 1902.
127.	" " "	*Tenth street, from North Main to Highland avenue,*	Aug. 9, 1902.
128.	" " "	*Unit street, from Maynard to Manton avenue,*	July 25, 1902.

At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
572.	Dec. 20, 1895,	*Section 28, Moshassuck Division, Improved Sewerage System.*
381.	Oct. 4, 1901,	*Section 27, Moshassuck Division, Improved Sewerage System.*
196.	June 6, 1902,	*India and South Main streets, Improved Sewerage System.*

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Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
384.	Oct. 4, 1901,	*Douglas and Camden avenues.*
126.	April 18, 1902,	*Sears avenue, from Atwells to Rangeley.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced September 30, 1902, namely:

No. of resolution.	Date of approval.	
125.	April 18, 1902,	*Phillips street, from near Hope to Morris avenue.*
195.	June 6, "	*Primrose, Walnut and Byron streets.*
197.	" " "	*Massachusetts avenue, from Virginia to Broad street.*
198.	" " "	*Moses Brown street, from Angell to South Angell.*
282.	Sept. 9, "	*Oriole and Rhode Island avenues.*

The amount of bills approved on account of sewers from July 1 to September 30, 1902, inclusive, was as follows:

FOR CONSTRUCTION.

Regular appropriation	$21,651 43	
Improved sewerage appropriation	37,302 18	
		$58,953 61

Charged as follows:

Material	$4,885 71
Additional catch-basins	715 95
Testing cement	278 25
Sundries	198 90
Tools	7 38
Sewer in Bellevue avenue, from near Elmwood avenue to Bucklin street	859 92
Sewer in Douglas and Camden avenues	1,946 67
Amount carried forward	$8,892 78

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Amount brought forward	$8,892 78
Sewer in Laurel Hill avenue, from Pocasset to Plainfield street	138 25
Sewer in Massachusetts avenue, from Virginia to Broad street	3 00
Sewer in Oxford street, from near Eddy to Allens avenue	2,744 11
Sewer in Phillips street, from near Hope to Morris avenue	1 75
Sewer in President avenue, from Arlington to Wayland	655 36
Sewer in Sears avenue, from Atwells to Rangeley	33 25
Sewer in Smithfield and Branch avenues	1,182 09
Sewer in Suffolk street, from Salina to Admiral	384 15
Sewer in Summit avenue, from Fourth street to Seventh	2,216 52
Sewer in Tenth street, from North Main to Highland avenue	2,032 62
Sewer in Unit street, from Maynard to Manton avenue	2,060 50
Sewer in Woodbine and Grand View streets	3,415 87
Installation of electric light and power at sewage precipitation tanks	4,139 30
Machinery for sludge press house	1,231 36
Sewer in Moshassuck Division, Section 26	1,843 36
Sewer in Moshassuck Division, Section 27	23,010 71
Sewer in Moshassuck Division, Section 28	4,874 75
Sewer in Seekonk Division, Section 29	93 88
	$58,953 61

For maintenance, ... $32,888 53

Classified as follows:

Cleaning basins and sewers	$7,453 70
Repairing basins and sewers	2,720 10
Cleaning and repairing old drains	1,637 76
Tools	1,297 05
Inspection of connections	710 72
Salary — superintendent	456 57
Horses, wagons, harnesses, etc	398 66
Barn expenses	298 50
Sundries	234 62
Telephone lines	35 93
Amount carried forward	$15,243 61

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Amount brought forward	$15,243 61
Cleaning private connections	34 00
Office expenses	8 88
Filling cisterns, etc	4 00

ERNEST STREET STATION.

Coal and wood	1,377 05
Engineers	825 42
Cleaning screens	648 91
Firemen	445 54
Cleaning and repairing pumps	415 95
Repairs on boilers	172 64
Care of grounds	93 39
Supplies	67 15
Lights	30 24
Care of buildings	25 96
Repairs on buildings	14 00
Repairs on engines	4 43

SEWAGE PRECIPITATION TANKS.

Chemicals	4,597 02
Electrical power	2,748 35
Labor in sludge disposal	2,535 76
Labor on sewage precipitation	1,418 57
Miscellaneous supplies	1,263 83
Watchmen	328 25
Repairs on machinery	268 42
Repairs on buildings	155 73
Care of buildings	68 25
Fuel	36 65
Care of grounds	34 97
Lights	21 56
	$32,888 53

The *net* expenditure for construction of sewers to September 30, 1902, inclusive, was $7,176,916 57

The *net* expenditure for maintenance of sewers to September 30, 1902, inclusive, was $895,600 21

Bills deposited with the city treasurer for collection from July 1 to September 30, 1902, inclusive, amounted to . . $337 33

As follows:

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One top buggy	$160 00	
Cleaning private connections	72 73	
Filling cisterns, etc	58 60	
Miscellaneous work	22 00	
Laying drains to curbstone	15 26	
Gasolene returned from preciptation tanks	7 54	
Testing cement	1 20	
	$337 33	

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $329 78

As follows:

One top buggy	$160 00
Cleaning private connections	66 48
Filling cisterns, etc	55 60
Miscellaneous work	22 50
Laying drains to curbstone	15 26
Gasolene returned from sewage precipitation tanks.	7 54
Testing cement	2 40
	$329 78

The amount of bills approved on account of sewers for the fiscal year ending September 30, 1902, inclusive, was as follows:

FOR CONSTRUCTION.

Regular appropriation	$93,264 89	
Improved sewerage appropriation	135,063 03	
		$228,327 92

Charged as follows:

Material	$19,571 77
Contract reservations	12,579 00
Additional catch basins	1,301 12
Testing cement	1,121 42
Sundries	906 24
Tools	27 11
Amount carried forward	$35,506 66

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Amount brought forward	$35,506 66
Sewer in Admiral street at Douglas avenue	121 75
Sewer in Bellevue avenue, from near Elmwood avenue to Bucklin street	859 92
Sewer in Blackstone boulevard, west side	665 59
Sewer in Bucklin street, from Peace to near Cromwell	1,449 29
Sewer in Calais, Edith and Leland streets	3,224 97
Sewer in Calais and West Park streets	1,691 46
Sewer in Douglas and Camden avenues	3,306 82
Sewer in Farmington and Silver Lake avenues	5,577 11
Sewer in Hamlin street, from Elmwood avenue to Roger Williams park	1,085 12
Sewer in Laurel Hill avenue, from Pocasset to Plainfield street	1,273 75
Sewer in Massachusetts avenue from Virginia to Broad street	3 00
Sewer in Morris avenue and Cypress street	10,203 59
Sewer in North Main street, from city line to Frost street	20,561 68
Sewer in Oxford street, from near Eddy to Allens avenue	2,744 11
Sewer in Phillips street, from near Hope to Morris avenue	1 75
Sewer in President avenue, from Arlington to Wayland	655 36
Sewer in Sears avenue, from Atwells to Rangeley	33 25
Sewer in Seventh street, from Summit avenue to North Main street	6,320 23
Sewer in Smithfield and Branch avenues	3,759 22
Sewer in Suffolk street, from Salina to Admiral	384 15
Sewer in Summit avenue, from Fourth street to Seventh	2,216 52
Sewer in Tenth street, from North Main to Highland avenue	2,032 62
Sewer in Unit street, from Maynard to Manton avenue	2,931 42
Sewer in Woodbine and Grand View streets	6,122 67
Chemical and laboratory buildings—to erect	224 56
Installation of electric light and power at sewage precipitation tanks	6,740 50
Machinery for sludge press house	6,395 99
Salaries of assistant engineers	381 43
Sewage precipitation tanks—to build	373 77
Sewage sludge filter presses	10,948 48
Sludge press house—to erect	298 35
Sundries, improved sewerage system	858 86
Amount carried forward	$138,953 95

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Amount brought forward	$138,953 95
Sewer in Moshassuck Division, Section 24	269 20
Sewer in Moshassuck Division, Section 25	8,326 11
Sewer in Moshassuck Division, Section 26	12,163 59
Sewer in Moshassuck Division, Section 27	61,206 40
Sewer in Moshassuck Division, Section 28	5,347 55
Sewer in Seekonk Division, Section 29	93 88
Sewer from Valley street to Woonasquatucket river	1,967 24
	$228,327 92

For maintenance, ... $108,302 36

Classified as follows:

Cleaning basins and sewers	$22,943 70
Repairing basins and sewers	9,141 05
Cleaning and repairing old drains	5,394 73
Inspection of connections	2,698 40
Tools	2,227 75
Salary — superintendent	1,772 86
Barn expenses	1,698 58
Sundries	1,104 57
Use of water	900 00
Horses, wagons, harnesses, etc	854 23
Sewer in sidewalk of central fire station	293 64
Cleaning private connections	192 20
Office expenses	154 23
Telephone lines	143 47
Contract reservations	60 00
Repairs on gate houses	20 04
Filling cisterns, etc	11 55
Repairs on buildings, sewer maintenance yard	11 10
Car fares	10 00

ERNEST STREET STATION.

Coal and wood	4,020 58
Engineers	3,293 33
Cleaning screens	2,542 99
Firemen	1,764 66
Cleaning and repairing pumps	1,303 23
Supplies	828 16
Repairs on boilers	380 25
Care of grounds	363 70
Lights	165 13
Amount carried forward	$64,294 13

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Amount brought forward	$64,294 13
Repairs on engines	74 98
Care of buildings	50 65
Repairs on buildings	18 45

SEWAGE PRECIPITATION TANKS.

Chemicals	$19,405 94
Labor in sludge disposal	9,842 42
Labor in sewage precipitation	4,759 30
Miscellaneous supplies	3,780 57
Electrical power	2,748 35
Watchmen	1,345 78
Repairs on machinery	627 88
Fuel	501 65
Lights	301 58
Care of grounds	253 41
Repairs on buildings	194 62
Care of buildings	84 75
Miscellaneous work	11 75
Repairs on tanks	6 15
	$108,302 36

HIGHWAYS.

Four permits to open streets were issued during the quarter.

August 11th, curbing bills were certified to the assessors of taxes for collection, amounting to $15,686.71.

September 16th, the proposal of Connecticut Trap Rock Quarries, Incorporated, to furnish and deliver on cars at Manton, R. I., one thousand tons trap rock for $1.20 per net ton, was accepted.

During the quarter, the following work was completed:

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Sidewalks to be Curbed and Gutters Paved.

Date of order.	
Oct. 17, 1901,	*Eastwood avenue, from Heath street to Ralph.*
June 5, 1902,	*Leland street, from Promenade to Edith.*
" 19, "	*Edith street, from Calais to Holden.*
" " "	*Hope street, from Doyle avenue to Phillips and Pleasant streets.*
" " "	*Smithfield avenue, from Branch to the Moshassuck river.*

To Rebuild.

No. of resolution.	Date passed.	
175.	May 15, 1902,	*South Main street, from near Pioneer lane to near Transit street.*

To Set Back Curb.

261.	Aug. 8, 1902,	*South Main street, west side, from near Custom avenue to Planet street.*

The following work was in progress September 30, 1902, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.	
May 16, 1901,	*Douglas avenue, from Chad Brown street to Admiral.*

To Grade and Build.

No. of resolution.	Date of approval.	
232.	July 7, 1902,	*Manton avenue, from Unit street to Chalkstone avenue.*

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The following work, ordered by the board of aldermen and city council, had not commenced September 30, 1902, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.

Jan. 16, 1902, *President avenue, north side, from Wayland about 180 feet westerly.*

To Pave with Granite Blocks.

No. of resolution. Date of approval.

379. Oct. 4, 1901, *Branch avenue, from Veazie street to bridge near Vandewater.*

Bills approved on account of highways from July 1 to September 30, 1902, inclusive, amounted to:

Regular appropriation	$76,656 06	
Special appropriation	1,792 40	
		$78,448 46

Classified as follows:

Cleaning streets	$18,424 75
Repairs on unpaved streets	15,172 28
Crushed stone — material and labor	9,154 59
Blacksmith and wheelwright shop	2,456 27
Barn expenses	1,843 64
Stone — paving and crosswalk	1,510 09
Repairs on paved streets	1,493 23
Tools, implements, etc.	938 28
Steam rollers — repairs and supplies	893 99
Repairs on stone crushers	751 47
Salary of superintendent	456 57
Labor on material	410 92
Building driveways, etc.	295 77
Watering streets	269 07
Horses, wagons, harnesses, etc.	187 50
Watchman at city yard	161 14
Sundries	93 43
Amount carried forward	$54,512 19

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Amount brought forward	$54,512 99	
Office expenses, city yard	27 52	
Fencing streets — material and labor	25 30	
Car fares	25 00	
Repairs on buildings, highway yard	9 22	
Telephone lines	5 35	
		$54,605 38

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Douglas avenue, from Chad Brown street to Admiral	$1,792 40	
Eastwood avenue, from Heath street to Ralph	2,254 24	
Edith street, from Calais to Holden	1,982 01	
Hope street, east side, from Doyle avenue to Phillips street, and west side from Pleasant, southerly to present end of curbing	797 26	
Leland street, from Promenade to Edith	1,116 14	
Smithfield avenue, from Branch to bridge over Moshassuck river	8,487 53	
		16,429 58

Pave with Granite Blocks.

Promenade street, from Park to Leland	146 99

Rebuild.

South Main street, from near Pioneer lane to near Transit street	6,421 69

Grade.

Manton avenue, from Unit street to Chalkstone avenue	844 82
	$78,448 46

Bills deposited with the city treasurer for collection from July 1 to September 30, 1902, inclusive, amounted to . . . $15,189 76

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As follows:

Union Railroad Company, for rebuilding South Main street	$12,000 00
Labor and material	1,773 21
Blacksmith and harness work for other departments	558 03
Boarding horses for other departments	296 12
Street sweepings	229 50
Use of steam roller	105 00
Manure from barn	72 00
Use of stone crusher	42 50
One wheel scraper	40 00
Removing trees	32 00
Use of hoisting engine	25 50
Discharging cargoes at city wharf	10 50
Oil barrels	5 40
	$15,189 76

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $14,640 63

As follows:

Union Railroad Company, for rebuilding South Main street	$12,000 00
Labor and material	1,554 50
Blacksmith and harness work for other departments	558 03
Street sweepings	225 50
Boarding horses for other departments	118 45
Manure from barn	72 00
Use of stone crusher	42 50
Wheel scraper	40 00
Use of hoisting engine	20 25
Oil barrels	5 40
Use of horse roller	2 00
Removing trees	2 00
	$14,640 63

Bills approved on account of highways for the fiscal year ending September 30, 1902, inclusive, amounted to:

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Regular appropriation	$278,021 48	
Special appropriation	8,962 02	
Special credit appropriation	766 15	
		$287,749 65

Classified as follows:

Cleaning streets	$58,210 87	
Repairs on unpaved streets	57,846 99	
Crushed stone — material and labor	46,346 08	
Repairs on paved streets	12,652 80	
Barn expenses	10,585 61	
Blacksmith and wheelwright shop	10,521 21	
Removing snow and ice	7,137 05	
Steam rollers — repairs and supplies	6,234 46	
Tools, implements, etc	5,779 83	
Stone — paving and crosswalk	5,751 84	
Repairs on stone crushers	3,153 46	
Labor on material	2,059 36	
Salary of superintendent	1,772 86	
Horses, wagons, harnesses, etc	1,150 06	
Building driveways, etc	799 99	
Watchman at city yard	625 71	
Watering streets	497 41	
Sundries	385 73	
Fencing streets — material and labor	239 95	
Office expenses, city yard	193 64	
Repairs on buildings, highway yard	178 28	
Car fares	105 00	
Telephone lines	21 40	
		$232,249 59

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Alger avenue, from Carlisle street to Whitney	$376 33	
Arlington avenue, from Lloyd to Olney street	1,880 40	
Bucklin street, from Burnett to Cromwell	5,811 28	
Douglas avenue, from Chad Brown street to Admiral	4,714 21	
Eastwood avenue, from Heath street to Ralph	2,320 54	
Edith street, from Calais to Holden	1,982 01	
Hope street, east side, from Doyle avenue, and west side from Pleasant, southerly, to present end of curbing	797 26	
Amount carried forward	$17,882 03	$232,249 59

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Amount brought forward	$17,882 03	$232,249 59
Jewett street, from Valley, about 540 feet easterly	481 23	
Leland street, from Promenade to Edith	1,116 14	
Lloyd avenue, from present end of curbing to Arlington	2,320 25	
Niagara street, from Stanwood to Congress avenue	258 05	
Olney street, from Hope to Morris avenue	1,733 03	
Perkins street, from Pearl to A	580 61	
Priscilla avenue, from Sterling to Union	2,886 25	
Roosevelt street, from Webster avenue to Laurel Hill	2,017 13	
Saunders street, from Lester to Perkins	185 54	
Smithfield avenue, from Branch to bridge over Moshassuck river	8,906 53	
Webster avenue, from Laban street to Eastwood avenue	750 34	
West Park street, from Valley 800 feet easterly	564 32	
		39,681 45
Pave with Granite Blocks.		
Promenade street, from Park to Leland		6,198 92
Rebuild.		
South Main street, from near Pioneer lane to near Transit street		8,277 92
Grade and Repair.		
Elmgrove avenue, east side, from President to Doyle, and on west side from President to Hazard		457 30
Grade.		
Manton avenue, from Unit street to Chalkstone avenue		844 82
Take Possession.		
South Main street, from Pioneer lane to Transit street		39 65
		$287,749 65

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from July 1 to September 30, 1902, inclusive, amounted to . . . $7,920 69

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Charged as follows:

Repairing sidewalks and gutters	$3,475 23
Granite curbing	2,866 13
Concreting sidewalks	1,579 33
	$7,920 69

Curbing bills deposited with the city treasurer for collection from July 1 to September 30, 1902, inclusive, amounted to $1,507 57

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $3,104 45

As follows:

Granite curbing	$2,902 61
Concreting sidewalks	170 54
Repairing sidewalks and gutters	31 30
	$3,104 45

Bills approved on account of sidewalks and curbing for the fiscal year ending September 30, 1902, inclusive, amounted to $29,155 51

Charged as follows:

Granite curbing	$18,019 67
Repairing sidewalks and gutters	6,878 21
Concreting sidewalks	4,257 63
	$29,155 51

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CITY ENGINEER.

Bills approved on account of the city engineer's department from July 1 to September 30, 1902, inclusive, amounted to . $12,262 89

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	10,008 24
Salaries of clerks	815 78
Car fares	151 85
Supplies — drawing material, etc	134 44
Instruments and repairs	16 55
Sundries	7 00
Telephone lines	2 68
Meteorological instruments and repairs	1 35
	$12,262 89

Bills approved on account of city engineer's department for the fiscal year ending September 30, 1902, inclusive, amounted to $49,179 99

Charged as follows:

Salary — city engineer	$4,500 00
Salaries of assistants	39,627 24
Salaries of clerks	3,167 68
Supplies — drawing material, etc	765 88
Car fares	762 90
Instruments and repairs	305 15
Carriage hire	20 38
Sundries	15 34
Telephone lines	10 72
Meteorological instruments and repairs	4 70
	$49,179 99

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BRIDGES.

The following work was in progress at the end of the quarter, namely:

No. of resolution.	Date of approval.	
94.	March 7, 1899,	*River walls between Burnside and Promenade street bridges.*

To Build Bridge and Approaches.

No. of resolution.	Date of approval.	
220.	June 20, 1902,	*Over Woonasquatucket river at Egan and Chatlett streets.*

August 6th, the proposal of Dailey Brothers to reconstruct the cribwork, fender piling and dolphins of the Washington bridge, was accepted. Amount of contract, $4,642.05.

August 11th, the proposal of James J. Newman to construct the abutment walls and piers for the Chatlett street bridge, was accepted and a contract subsequently executed. Amount, $15,145.50.

August 15th, the proposal of The Boston Bridge Works, Incorporated, for the steel superstructure of the Chatlett street bridge, was accepted and a contract subsequently executed. Amount, $19,224.75.

August 15th, the offer of The Congdon & Carpenter Company for wrought iron fastenings for the work at Washington bridge was accepted.

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September 16th, the proposal of James J. Newman to build a storm sewer under the abutments of the Chatlett street bridge, was accepted. Amount, $763.20.

Bills approved on account of bridges from July 1 to September 30, 1902, inclusive, amounted to $11,930 41

Charged as follows:

Barn expenses	$75 14
Building at city yard	5 00
Burnside bridge	4 60
Car fares	25 00
Cemetery street bridge	3 30
Charles street bridge	22 81
Crawford street bridge	33 25
Exchange bridge	8 40
Francis street bridge	4 60
Geneva bridge	10 94
Hawkins street bridge	46 53
Horses, wagons, harnesses, etc	9 15
Lumber, hardware, etc	344 51
Manton bridge	132 05
Mill street bridge	10 40
Point street bridge	1,592 45
Promenade street bridge	4 60
Randall street bridge	39 75
Red bridge	73 01
Rent of keeper's house — Washington bridge	30 00
Salaries — Point street bridge	1,042 50
Salaries — Red bridge	639 93
Salaries — Washington bridge	606 87
Smithfield avenue bridge	251 62
Stevens street bridge	6 40
Sundries	133 45
Telephone lines	2 68
Tools	44 78
Veazie street bridge	5 36
Wanskuck bridge	80 28
Washington bridge	6,623 16
Washington row bridge	3 44
Weybosset bridge	5 76
Whelden street bridge	8 69
	$11,930 41

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Bills deposited with the city treasurer for collection from July 1 to September 30, 1902, inclusive, amounted to . . . $2 50

As follows:

Old lumber	$2 00
Cement barrels	50
	$2 50

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $3 00

As follows:

Old lumber	$2 50
Cement barrels	50
	$3 00

Bills approved on account of bridges for the fiscal year ending September 30, 1902, inclusive, amounted to $28,366 98

Charged as follows:

Acorn street bridge	$47 44
Atwells avenue bridge	11 39
Barn expenses	424 44
Branch avenue bridge	13 19
Building at city yard	333 55
Burnside bridge	31 57
Car fares	25 00
Cemetery street bridge	4 95
Charles street bridge	38 76
Charles street railroad bridge	3 00
Crawford street bridge	180 84
Delaine street bridge	275 32
Eagle street bridge	16 36
Exchange bridge	104 81
Francis street bridge	79 01
Amount carried forward	$1,589 63

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Amount brought forward	$1,589 63
Gaspee street bridge	9 85
Geneva bridge	17 02
Hawkins street bridge	64 13
Horses, wagons, harnessess, etc	253 01
Lumber, hardware, etc	655 05
Manton bridge	139 40
Manton avenue bridge	46 94
Mill street bridge	28 49
Nash lane bridge	60 00
Park street bridge	517 06
Point street bridge	3,034 82
Promenade street bridge	73 29
Randall street bridge	155 95
Red bridge	982 85
Rent of keeper's house, Washington bridge	120 00
Salaries — Point street bridge	3,971 75
Salaries — Red bridge	2,200 64
Salaries — Washington bridge	2,063 79
Smith street bridge	164 65
Smithfield avenue bridge	251 62
Stevens street bridge	16 58
Sundries	816 01
Telephone lines	10 72
Tools	534 20
Valley street bridge — north span	227 92
Valley street bridge — south span	195 90
Veazie street bridge	17 48
Wanskuck bridge	85 85
Washington bridge	9,911 64
Washington row bridge	36 38
West River street bridge	14 85
Weybosset bridge	76 34
Whelden street bridge	23 17
	$28,366 98

Bills approved for account of building the Chatlett street bridge, from July 1 to September 30, 1902, inclusive, have been paid from the special appropriation for that work, to the amount of. $2,863 20

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PUBLIC LIGHTS.

Bills approved on account of the public lights from July 1 to September 30, 1902, inclusive, amounted to $73,613 30

Charged as follows:

Arc lights	$55,881 96
Incandescent lights	11,324 19
Welsbach lights	5,921 59
Salaries	326 43
Setting and removing gas posts	104 93
Gas for street lights	51 87
Horses, wagons, harnesses, etc.	2 33
	$73,613 30

Bills deposited with the city treasurer for collection from July 1 to September 30, 1902, inclusive, amounted to . . . $12 25

As follows:

Gas posts and lanterns	$9 00
Setting and removing gas posts	3 25
	$12 25

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $12 25

As follows:

Gas posts and lanterns	$9 00
Setting and removing gas posts	3 25
	$12 25

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Bills approved on account of the public lights for the fiscal year ending September 30, 1902, inclusive, amounted to . . $292,900 93

Charged as follows;

Arc lights	$221,621 28
Incandescent lights	45,268 65
Welsbach lights	23,399 18
Salaries	1,802 37
Setting and removing gas posts	250 01
Gas for street lights	234 78
Barn expenses	230 23
Horses, wagons, harnesses, etc.	38 34
Supplies for repairing posts and lanterns	20 75
Office furniture and supplies	20 34
Car fares	15 00
	$292,900 93

PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from July 1 to September 30, 1902, inclusive, amounted to . . . $5,146 34

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,051 91
Office supplies	166 75
Telephone lines	2 68
	$5,146 34

Bills approved on account of the public works office for the fiscal year ending September 30, 1902, inclusive, amounted to . $20,647 35

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Charged as follows:

Salaries of commissioner and secretary	$7,700 00
Salaries of office assistants	12,347 67
Office supplies	588 96
Telephone lines	10 72
	$20,647 35

CONTINGENCIES.

Bills approved for the inspection of electric wires for the fiscal year ending September 30, 1902, inclusive, have been paid from the appropriation for contingencies to the amount of $31 82

ROBERT E. SMITH,

Commissioner.

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CITY DOCUMENT No.

EIGHTIETH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING DECEMBER 31, 1902.

The Providence Press
PRINTED BY THE PROVIDENCE PRESS COMPANY
1903

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EIGHTIETH QUARTERLY REPORT

OF THE

Department of Public Works

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING DECEMBER 31, 1902.

The Providence Press:
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REPORT.

OFFICE OF THE DEPARTMENT OF PUBLIC WORKS,
CITY HALL, PROVIDENCE, R. I., January 1, 1903.

TO THE HONORABLE THE CITY COUNCIL:

In compliance with the requirements of Chapter 41 of the ordinances, the Commissioner of Public Works respectfully presents the eightieth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered and the condition and cost of same, for the quarter ending December 31, 1902.

WATER WORKS.

December 16th, the proposal of The Congdon & Carpenter Company to furnish the following material, was accepted and a contract subsequently executed, namely:

54,000 pounds of lead pipe, various sizes, at $4.54 per hundred pounds.
15,000 pounds of pig lead, at $4.27 per hundred pounds.
400 pounds of pig tin, at $25.75 per hundred pounds.
Amount $3,195.10.

December 16th, the proposal of John W. Lyon to furnish and deliver taps, stops and plugs, various sizes, was accepted and a contract entered into. Amount, $1,200.90.

December 18th, the proposal of Builders Iron Foundry to furnish special castings for the water and sewer departments during the year 1903, was accepted and a contract subsequently executed.

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December 20th, the proposal of Warren Foundry and Machine Company to furnish about 466 tons of cast iron water pipe, from 4 inches to 24 inches in diameter, for the sum of $32.70 per ton of 2,240 pounds, was accepted and a contract subsequently executed. Amount, $15,239.51.

December 20th, the proposal of The Ludlow Valve Manufacturing Company, to furnish and deliver ten post hydrants, was accepted. Amount, $495.

December 20th, the proposal of the Darling Pump and Manufacturing Company, Limited, to furnish flush fire hydrants and water gates, was accepted and a contract subsequently executed. Amount, $2,973.80.

The average daily consumption of water during the last quarter was 12,189,827 gallons; and the average daily consumption for the year 1902, was 11,563,414 gallons.

Water pipes were laid during the quarter as follows:

12-INCH.

In Smith street and in Park avenue in the town of Cranston.	4,166.10 feet.

8-INCH.

In Frost, Nichols and Smith streets; Maryland, Montgomery and Northup avenues; in Narragansett boulevard, and in Norwood avenue, in the town of Cranston	1,467.88 feet.

6-INCH.

In Ascham, Crowningshield, Dove, East George, Edith, Edward, Eighth, Eliza, Fuller, Ledge, Manchester, Primrose, Solar, Stone, Thackeray and Well streets; Alabama, Doane, Laurel Hill, Norwood, Standish, Wealth and Whittier avenues; in Maple, Oak, Station and Transit streets; Norwood, Roland and Villa avenues, in the town of Cranston	7,905.74 feet.
Total	13,539.72 feet.

or, 2.564 + miles.

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Water pipes were abandoned or removed during the quarter as follows:

6-INCH.

Abandoned in Edith street and removed from Carter street.	197.90 feet.

or, .037 + mile.

Statement of sizes and lengths of pipe laid since the commencement of the work:

36-inch	10,084.00 feet.
30-inch	61,328.30 feet.
24-inch	43,758.29 feet.
20-inch	9,626.59 feet
16-inch	34,084.95 feet.
12-inch	103,428.75 feet.
10-inch	15,057.14 feet.
8-inch	284,493.52 feet.
6-inch	1,210,929.26 feet.
Total	1,772,790.80 feet.

or, 335.755 + miles.

Statement of sizes and lengths of pipe laid for the special water service for fire protection since the commencement of the work.

24-inch	4,188.58 feet.
16-inch	23,004.37 feet.
12-inch	2,215.76 feet.
Total	29,408.71 feet.

or, 5.569 + miles.

Twelve fire hydrants have been set during the quarter, one in each of the following locations:

Dexter street, west side, 8 feet north of range of north line of Sprague.
East George street, north side, 252 feet east of east building line of Gano.
Edward street, east side, 108 feet south of Ledge.
Eliza street, east side, 122 feet north of range of north line of Thornton.
Fuller street, west side, 3 feet north of north building line of Sprague.

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Massasoit avenue, Cranston, north side, 307 feet east of Broad street.

Montgomery avenue, north side, 2 feet west of west building line of Maryland.

Park avenue, Cranston, on range of east line of Maple street.

Park avenue, Cranston, 423.5 feet east of range of east line of Southern street.

Well street, west side, 14 feet south of south building line of Hardings alley.

Westfield street, south side, 240 feet west of west building line of Fuller.

Whittier avenue, north side, 245 feet west of west building line of Ralph street.

The total number of fire hydrants, exclusive of those for special service for fire protection, is now nineteen hundred and sixty — eighteen hundred and sixty-one flush, and ninety-nine post.

The total number of fire hydrants on the special water service for fire protection is ninety-two.

During the quarter, two hundred and fifty-four water meters were set, of which number seventy-two were to replace other meters. The use of seventeen meters was discontinued.

The following meters were in use at the close of the quarter:

Kind.	Size.								Total.
	⅝-in.	¾-in.	1-in.	1¼-in.	2-in.	3-in.	4-in.	6-in.	
Ball & Fitts	2,308	471	112	13	5	.....	.....	.....	2,909
Ball & Fitts, rotary	.....	.....	5	7	.....	2	1	.....	15
Crown	9,164	1,029	306	136	33	23	24	1	10,716
Empire	779	116	54	43	12	.....	1	.....	1,005
Fales, Jenks & Sons	.....	.....	1	.....	.....	.....	.....	.....	1
Gem	.....	.....	.....	.....	11	27	15	3	56
Thomson	3,833	423	75	53	21	7	7	2	4,421
Trident	89	.....	1	.....	.....	.....	.....	.....	90
Worthington	1	1	.....	.....	1	.....	.....	.....	3
	16,174	2,040	554	252	83	59	48	6	19,216

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No licenses were issued during the quarter.

Seven hundred and two plumbing permits were issued during the quarter.

One hundred and seventy applications for water were made during the quarter, making the total number December 31, 1902, twenty-five thousand five hundred and four.

The number of new service stops opened during the year was one hundred and forty-four.

The total number of service stops opened to December 31, 1902, inclusive, was twenty-four thousand eight hundred and ten. The number in actual use December 31, 1902, was twenty-two thousand seven hundred and fifty-eight.

The following is a list of drinking troughs supplied with water by the Providence water works, viz.:

Academy avenue, north of Chalkstone.
Angell street, junction of South Angell.
Atwells avenue, junction of Harris.
Bassett street, off Hospital.
Branch avenue and Abbott street.
Broad street, junction of Eddy.
Broadway, junction of Westminster street.
Canal street, near Linard.
Charles street, corner of Ormsbee avenue.
Charles street and Branch avenue.
Chalkstone avenue, junction of Manton.
Dexter street, near Durfee.
Dorrance street, near Exchange place.
Douglas avenue and Chalkstone.
Douglas avenue and Admiral street.
Dyer street, near Crawford street bridge.
Dyer street, junction of Eddy.
Elmwood avenue and Public street.
Federal street, junction of Kenyon.
Fountain street, junction of Carpenter.
Hartford avenue, junction of Killingly street.
Manton avenue, junction of Atwells.
Miller avenue (Roger Williams park).
North Main street, junction of Benefit.
Olneyville square.
Plainfield street, junction of Pocasset avenue.

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Prairie avenue, junction of Broad street.
Point street, junction of Friendship.
Point street, near the bridge.
Potters avenue, corner of Cranston street.
Randall square.
Reservoir avenue, junction of Pontiac street.
Rochambeau avenue, east of Blackstone boulevard.
Smith street, junction of Chalkstone avenue.
South Main street, junction of Wickenden.
Thayer street, junction of Hope.
Trinity square.
Waterman street, corner of East River.
Westminster street, junction of Cranston.
Weybosset street, near Mathewson.
Wickenden street, corner of Governor.

TOWN OF CRANSTON.

Cranston street, junction of Phenix road.
Park avenue, corner of Doric.

TOWN OF JOHNSTON.

Manton avenue, near Killey.

The following is a list of street sprinklers ready for use on the Providence water works, viz.:

Aborn street, near junction of Atwells avenue.
America street, near Atwells avenue.
Barton street, corner of Broadway.
Bradford street, near Broadway.
Branch avenue, near junction of North Main street.
Benefit street, foot of Angell.
Benefit street, between North Main and Halsey.
Beacon avenue, near Friendship street.
Broad street, near Gallup.
Broadway, north side, west of Harris avenue.
Camp street, between Cypress and Larch.
Codding street, near Westminster.
Cranston street, east side of railroad bridge.
Crary street, between Eddy and Hospital.
Cromwell street, near Dexter.
Daniel avenue, near Plainfield street.
Dexter street, opposite Division.
Doyle avenue, near Hope street.
Doyle avenue, near North Main street.
Exchange place, west end.
Ford street, west of Cranston.
Garnet street, near Pine.

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Governor street, near Waterman.
Greenwich street, corner Elmwood avenue.
Harris avenue, near Atwells.
Hope street, junction of Thayer.
Hope street, corner of Wickenden.
John street, corner of Benefit.
Knight street, corner of Grove.
Laurel Hill avenue, near Plainfield street.
Linden street, near Broad.
Manning street, near Brook.
Medway street, east of Wayland avenue.
Melrose street, near south corner of burying ground.
Moore street, corner of Broad.
North Main street, corner of Thomas.
North Main street, near Mill.
Olive street, east of Prospect.
Olney street, near Camp.
Orms street, near Ormsbee avenue.
Oxford street, corner of Eddy.
Pocasset avenue, near Plainfield street.
Power street, west of Hope.
Promenade street, west of Gaspee.
Promenade street, west of Holden.
Promenade street, west of Steeple.
Prospect street, corner of Bowen.
Public street, about 200 feet east of Temple.
Reservoir avenue, opposite Atlantic.
Roger Williams park, near Broad street (private).
Salem street, between Potters avenue and Benedict street.
Smith street, near Oakland avenue.
Smith street, near Schaffer.
Smithfield avenue, north of Branch.
Smithfield avenue, north of the Moshassuck river.
Smithfield avenue, north of the railroad bridge.
Transit street, between South Water and South Main.
Washington street, corner of Dean.
West Friendship street, near Broad.
Weybosset street, opposite Abbott Park place.
Willard avenue, west of Prairie.
Willow street, west of Messer.
Winter street, near Pond.
Woodland street, near Holden.

The following is a list of drinking fountains, namely:

Atwells avenue, corner of Academy.
Branch avenue, at Charles street.
Benefit street, corner of College.
Canal street, corner of Steeple.
Candace street, corner of Orms.

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Cranston street, junction of Westminster.
Davis park.
Dexter street, opposite Division.
Dorrance street, near Exchange place.
Dyer street, corner of Crawford.
Friendship street, at Hayward park.
Jackson street, corner of Westminster.
North Main street, near Mill.
Olneyville square.
Prairie avenue, opposite Comstock.
Point street, corner of Eddy.
Potters avenue, corner of Elmwood.
Randall square.
Roger Williams park, near Betsey Williams cottage.
Roger Williams park, near Elmwood avenue.
Roger Williams park, near the menagerie.
Ship street, corner of Dyer.
Tockwotton park.
Westminster street, corner of Dyer.
Wickenden street, corner of Transit.

SPRINKLER HYDRANTS FOR CAR SPRINKLERS.

Angell street, south side, 90 feet East of Wayland avenue, in sidewalk.
Camp street, east side, 125 feet north of Olney, in sidewalk.
Chalkstone avenue, northeast corner Fallon, in sidewalk.
Dexter street, west side, 18 feet south of Cranston, in sidewalk.
Eddy street, west side, at Richmond, in street.
Eddy street, west side, 5 feet south of north line of Washington avenue, in street.
Edna street, west side, 16 feet north of south line of car-house.
Elmwood avenue, east side, 85 feet south of Thackeray street.
Hope street, east side, 125 feet north of Barnes, in street.
Manton avenue, west side, 150 feet south of fire station, in sidewalk.
Market square, north side, 24 feet east of Canal street, in street.
North Main street, west side, 182 feet north of White, in street.
North Main street, west side, 17 feet north of Livingstone, in street.
Orms street, south side, 23 feet east of Winsor, in sidewalk.
Randall square, east side, 32 feet north of Randall street, in street.
Richmond street, southwest side, 44 feet southeast of Pine, in sidewalk.
Smith street, southwest side, 360 feet southeast of Hilltop avenue, in sidewalk.
Thurbers avenue, south side, 298 feet east of Broad street, in sidewalk.
Wickenden street, south side, 167 feet west of Brook, in street.
Winter street, east side, 187 feet south of Pond, in sidewalk.

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The following table shows the lengths, sizes, etc., of services laid during twenty-six years, ending December 31, 1902:

YEARS.	Length of Services in Feet.									Taps Used.						Stops Used.						Service Boxes Used.
	Sizes of Pipe.						Totals.	Trenching.	Paving.													
	½ inch.	⅝ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.				⅝ in.	½ in.	⅝ in.	¾ in.	1 in.	Totals.	⅝ in.	½ in.	⅝ in.	¾ in.	1 in.	Totals	
To Dec. 31, 1901.....	9,919.9	222,866.58	21,297.2	4,657.2	3,483	457.7	262,281.67	275,983.29	33,694.28	612	13,402	1,617	409	326	16,366	645	14,280	1,341	296	279	16,841	17,324
1902.....	.....	8,619.4	527.7	240.2	104.2	.....	9,491.5	9,882.5	1,217.	....	508	39	11	13	571	....	538	30	7	9	584	600
Totals...	9,919.9	231,485.98	21,824.9	4,897.4	3,587.2	457.7	271,773.17	285,865.79	34,911.28	612	13,910	1,656	420	339	16,937	645	14,818	1,371	303	288	17,425	17,924

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The following table shows the lengths, sizes, etc., of services laid during the year ending December 31, 1902.

Months.	Lengths of Services in Feet.								Taps Used.					Stops Used.					Service Boxes Used.
	Sizes of Pipe.					Totals.	Trenching.	Paving.					Totals.					Totals.	
	½ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.				½ in.	⅝ in.	¾ in.	1 in.		½ in.	⅝ in.	¾ in.	1 in.		
January	84.4	.....	.....	.....	.....	84.4	91.	9.5	8	....	....	....	8	8	....	....	....	8	8
February	71.	8.2	.....	16.4	.....	95.6	102.	28.	5	1	....	2	8	5	1	....	2	8	8
March	573.8	16.4	.....	.....	.....	590.2	623.	100.	38	2	1	....	41	38	2	....	....	40	41
April	1,427.2	23.1	56.4	.....	.....	1,506.7	1,573.5	126.	67	6	2	2	77	78	3	2	....	83	89
May	1,013.8	51.4	82.	.....	.....	1,147.2	1,127.	129.	59	3	1	....	63	60	3	1	....	64	64
June	781.6	.....	.....	.....	.....	781.6	824.	108.	48	1	1	....	50	51	....	....	....	51	53
July	998.8	170.4	.....	.....	.....	1,169.2	1,225.	216.	59	8	....	1	68	62	8	....	....	70	70
August	968.5	108.	26.2	8.2	.....	1,110.9	1,158.5	62.	47	8	2	1	58	51	6	1	1	59	62
September	534.2	55.2	.....	.....	.....	589.4	612.	71.	38	3	....	....	41	39	2	....	....	41	41
October	683.2	58.4	.....	.....	.....	741.6	786.	112.	48	4	....	1	53	53	2	....	....	55	58
November	840.7	36.6	75.6	59.2	.....	1,012.1	1,063.5	135.	52	3	3	4	62	53	3	3	4	63	63
December	642.2	.....	.....	20.4	.....	662.6	697.	120.5	39	....	1	2	42	40	....	....	2	42	43
Totals	8,619.4	527.7	240.2	104.2	.....	9,491.5	9,882.5	1,217.	508	39	11	13	571	538	30	7	9	584	600

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Changes in size and location of services, 1902:

Taps and Stops.										Sizes and Lengths of Lead Pipe.														
Taken Out.					Inserted.					Taken Out.					Inserted.					Trenching.	Paving.	Change in size only.	Change in location only.	Change in both size and location.	Change in length.
½ inch.	½ inch.	⅝ inch.	¾ inch.	1 inch.	½ inch.	½ inch.	⅝ inch.	¾ inch.	1 inch.	½ inch.	½ inch.	¾ inch.	1 inch.	1¼ inch.	½ inch.	¾ inch.	1 inch.	1¼ inch.	1½ inch.						
34	36	7	.....	4	.....	33	11	12	7	821	411	46.6	.....	53.8	554.7	196	172.4	86.6	.....	1,583	424.5	49	10	3	46

20 services have been removed.
During the year, 154 taps were reported obstructed and were dug up and examined; 147 were cleaned; 7 were found unobstructed.
26 private taps were inserted.

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The following table exhibits the number of service stops opened each month from the commencement to December 31, 1902.

Months.	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
January	....	54	33	21	34	55	15	49	9	29	7	17	15	21	17	18	26	7	39	36	39	56	40	29	30	27	30	40	18	24	18	27
February	....	47	18	18	7	25	23	18	9	19	3	11	9	10	7	15	7	10	21	25	26	23	24	28	8	28	24	21	7	15	10	18
March	....	38	34	63	7	45	32	60	19	46	23	39	11	28	9	24	16	14	19	28	24	28	36	40	27	20	42	46	28	30	24	39
April	....	109	109	108	32	108	82	78	52	58	55	49	55	62	48	68	60	38	61	53	73	76	71	76	67	100	70	53	69	47	73	73
May	....	224	206	147	162	168	136	95	80	84	66	72	78	62	62	61	70	52	74	66	114	83	91	81	79	98	82	51	73	60	67	52
June	....	329	295	151	172	148	114	103	71	109	82	48	64	81	81	59	50	86	59	80	83	103	106	105	100	76	86	61	73	60	96	71
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	83	80	49	75	56	77	66	76	77	83	62	89	74	67	85	105	93	80	89	83	59	51	66	44	81	74
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	51	39	58	87	69	61	57	71	49	52	56	76	95	104	115	110	83	64	69	54	80	66	78	62
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44	37	60	67	93	50	70	59	74	63	64	77	93	114	88	112	70	71	67	53	53	76	72	56
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	39	48	61	56	47	65	62	52	80	70	64	54	104	102	96	85	90	70	62	47	54	65	66	43
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	42	54	37	64	49	51	39	57	69	47	58	72	81	118	80	70	68	52	54	42	45	54	63	55
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	47	29	40	27	50	44	46	28	49	42	53	50	83	102	62	62	57	58	53	47	40	56	44	46
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	548	614	612	611	575	595	612	570	642	684	900	1014	892	884	708	747	698	506	600	597	692	616

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The receipts for water each year since the commencement have been as follows:

Year.	Amount.	Year.	Amount.
1872	$41,003 51	1888	$346,731 58
1873	97,386 09	1889	377,497 97
1874	132,052 39	1890	401,140 86
1875	165,144 71	1891	404,553 84
1876	183,868 73	1892	409,421 21
1877	200,039 39	1893	427,546 51
1878	218,883 33	1894	432,383 97
1879	229,551 78	1895	471,069 97
1880	247,705 06	1896	485,187 33
1881	260,530 87	1897	490,652 47
1882	269,318 77	1898	502,603 10
1883	283,632 89	1899	522,124 46
1884	302,368 36	1900	554,949 62
1885	313,561 21	1901	578,869 07
1886	323,084 67	1902	605,307 35
1887	339,513 60		

The amount of bills approved on account of water works, from October 1 to December 31, 1902, inclusive, was:

For maintenance. $47,321 01

Classified as follows:

PETTACONSET PUMPING STATION.

l oil	$6,497 29
l and wood	2,097 39
allation of fuel oil	1,117 94
ies	681 52
	558 41
	429 40
	289 14
rried forward	$11,671 09

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Amount brought forward	$11,671 09	
Barn expenses	281 86	
Labor on fuel	137 40	
Worthington high-duty engine	118 88	
Care of grounds	81 28	
Repairs on boilers	79 33	
Oil, waste and packing	58 36	
Real estate	44 50	
Corliss pumping engine and house	30 29	
Lights	29 08	
		$12,532 27

SOCKANOSSET RESERVOIR.

Sundries	$215 34	
Watchman	176 00	
		391 34

HOPE PUMPING STATION.

Firemen	$389 30	
Engineers	289 14	
Lights	61 32	
Sundries	27 25	
Repairs on boilers	80	
		767 81

HOPE RESERVOIR.

Watchman		198 00

FRUIT HILL RESERVOIR.

Sundries	$268 61	
Watchman	198 00	
		466 61

METER DEPARTMENT.

Water meters	$6,607 79	
Setting and repairing meters	1,089 31	
		7,697 10

PIPE LINE AND SERVICE STOPS.

Repairs	$2,929 94	
Superintendence — salaries	820 53	
		3,750 47
Amount carried forward		$25,803 60

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Amount brought forward		$25,803 60

PIPE YARD.

Laying water pipe	$4,271 79	
Cast iron water pipe	3,338 23	
Laying service pipe	1,310 52	
Cast iron water pipe	1,090 65	
Labor on and carting pipe	288 81	
Stop valves	170 85	
Tools	135 51	
Pig lead and tin	115 00	
Pipe yard, office expenses	57 11	
Service pipe	48 98	
Repairs on pipe yard buildings	14 90	
Fire hydrants, boxes and covers	14 20	
		10,856 55

MISCELLANEOUS.

Town of Cranston, tax	$7,077 69	
Clerks' and inspectors' salaries	1,493 49	
Barn expenses	625 75	
Prevention of defilement of the Pawtuxet	549 99	
Town of North Providence, tax	400 00	
Telephone lines	137 68	
Horses, wagons, harnesses, etc	136 76	
Car fares	125 00	
Real estate at Pawtuxet	63 00	
Real estate in Lincoln	27 50	
Public drinking fountains and troughs	24 00	
		10,660 86
		$47,321 01

For construction, ... $23,652 66

Charged as follows:

Installation of sand filtration plant at Pettaconset.	$23,652 66	

The total expenditures to December 31, 1902, inclusive, was $9,364,770 27

The *net* expenditure for maintenance from October 1 to December 31, 1902, inclusive, was	$37,947 38
The *net* expenditure for maintenance to December 31, 1902, inclusive, was	1,864,559 67
The *net* expenditure for construction from July 1 to December 31, 1902, inclusive, was	26,872 92

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The value of the water works system, January 1, 1902, as estimated by the city engineer, was as follows:

Pettaconset pumping station	$340,694 00	
Hope pumping station	132,281 46	
Sockanosset, Hope and Fruit Hill reservoirs	721,563 84	
Main lines and distribution pipes	2,726,494 03	
Real estate in Pawtuxet and Lincoln	15,975 00	
Tools and supplies	22,371 35	
		$3,959,379 68

Bills deposited with the city treasurer for collection from October 1 to December 31, 1902, inclusive, amounted to . . . $75,018 72

As follows:

Water	$66,430 15
Water meters	4,011 00
Labor and material, laying services, etc.,	2,445 40
Setting and repairing meters	1,566 48
Repairs on pipe line	326 74
Rent of real estate	84 25
Old iron	53 10
Penalties	50 00
Permanently closing service stops	35 00
Cast iron water pipe	16 60
	$75,018 72

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $76,761 88

As follows:

Water	$67,338 35
Water meters	4,611 85
Labor and material, laying services, etc	2,889 66
Setting and repairing meters	1,578 75
Repairs on pipe line	180 27
Rent of real estate	93 00
Penalties	50 00
Permanently closing service stops	20 00
	$76,761 88

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SEWERS.

During the quarter ending December 31, 1902, three hundred and four permits were issued to drain layers — one hundred and fifty-five for new work and one hundred and forty-nine for extension and repairs of drains.

No drain layers' licenses were issued during the quarter.

October 24th, the proposal of J. H. Lane & Company to furnish and deliver 10,000 yards chain cloth for use at the sewage presses, for the sum of twenty-two cents per yard, was accepted.

December 6th, the proposal of Starkweather & Williams Company to furnish and deliver from 350 to 500 tons copperas during the year 1903, for use at the sewage tanks, for the sum of thirty-nine cents per hundred pounds, was accepted.

December 23d, the proposal of H. R. Horton Company to furnish and deliver natural cement required during 1903, on the line of the work, was accepted.

December 23d, the proposal of Frederick E. Shaw to furnish and deliver upon the line of the work the Portland cement required during the year 1903, was accepted.

December 26th, the proposal of Frederick E. Shaw to furnish and deliver vitrified sewer pipe, flagstones and granite inlet curbstones, was accepted and a contract subsequently executed. Amount, $11,880.18.

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SEWERS CONSTRUCTED TO DECEMBER 31, 1902, IN MILES:

ITEMS.	KIND.	Built previous to 1902.	Built during 1902.	Total to Dec. 31, 1902.
Under regular appropriation.....	Brick.	36.536	.615	37.151
Under regular appropriation.....	Pipe.	122.706	3.759	126.465
Under improved sewerage appropriation.....	Brick and Pipe.	25.424	1.400	26.824
Total miles of sewers..		184.666	5.774	190.440

During the year, 132 catch-basins, 55 extra inlets, and 245 manholes have been built, making a total in use December 31, 1902, of 4,498 catch-basins, 1,410 extra inlets, and 8,166 manholes.

November 12th, contracts for the construction of the following sewers were awarded and subsequently executed, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include the cost of inspection and materials.]

TO FREDERICK E. SHAW.

No. of resolution.	Date of approval.		
282.	Sept. 9, 1902,	*Oriole and Rhode Island avenues*, ...	$632 10
351.	Nov. 6, "	*Cemetery street, from North Main to Frost*, . .	1,925 40
352.	" " "	*Doane and Everett avenues*,	970 90

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No. of resolution.	Date of approval.		
353.	Nov. 6, 1902,	*Jewett street, from Valley 510 feet easterly,* . .	$589 90
354.	" " "	*Tuxedo and Regent avenues,*	1,209 50
355.	" " "	*Wallace street, from near Webster avenue to Priscilla,*	458 50

To Timothy F. Lyons.

349.	Nov. 6, 1902,	*Algonquin street, Reservoir avenue and in right of way,*	$2,025 22
350.	" " "	*Branch avenue from Douglas to Veazie,* . . .	7,879 98

During the quarter, the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
384.	Oct. 4, 1901,	*Douglas and Camden avenues,* . . .	Dec. 22, 1902.
125.	April 18, 1902,	*Phillips street, from near Hope to Morris avenue,*	Oct. 22, 1902.
126.	" " "	*Sears avenue, from Atwells to Rangeley,* .	Nov. 5, 1902.
195.	June. 6, "	*Primrose, Walnut and Byron streets,* . .	Nov. 14, 1902.
197.	" " "	*Massachusetts avenue, from Virginia to Broad street,* . . .	Oct. 18, 1902.
198.	" " "	*Moses Brown street, from Angell to South Angell,* .	Nov. 21, 1902.
282.	Sept. 9, "	*Oriole and Rhode Island avenues,* . . .	Dec. 20, 1902.

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At the close of the quarter, work upon the following sewers of the improved sewerage system was in progress, namely:

No. of resolution.	Date of approval.	
572.	Dec. 20, 1895,	*Section 28, Moshassuck Division, Improved Sewerage System.*
381.	Oct. 4, 1901,	*Section 27, Moshassuck Division, Improved Sewerage System.*
196.	June 6, 1902,	*India and South Main streets, Improved Sewerage System.*

Work upon the following lateral sewers was in progress at the close of the quarter, namely:

No. of resolution.	Date of approval.	
352.	Nov. 6, 1902,	*Doane and Everett avenues.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced December 31, 1902, namely:

No. of resolution.	Date of approval.	
349.	Nov. 6, 1902,	*Algonquin street, Reservoir avenue and right of way.*
350.	" " "	*Branch avenue, from Douglas to Veazie street.*
351.	" " "	*Cemetery street, from near North Main to Frost.*
353.	" " "	*Jewett street, from Valley, 510 feet easterly.*
354.	" " "	*Tuxedo and Regent avenues.*
355.	" " "	*Wallace street, from near Webster avenue to Priscilla.*

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SEWER MAINTENANCE DEPARTMENT

The following table shows the work performed by the department cleaning sewers, basins and drains, for the year 1902:

Months.	Old Work.								New Work.									Total deposit removed, cubic yards.
	Old Drains.			Sand-Catchers.		Open Ditches.			Sumps.		Sewers.				Catch-Basins.			
	Number.	Length in feet.	Deposit removed, cu. yards.	Number.	Deposit removed, cu. yards.	Number.	Length in feet.	Deposit removed cu. yards.	Number.	Deposit removed, cu. yards.	Number.	Length in feet.	Deposit removed, cu. yards.	Dead Ends.	No. times examined.	Number cleaned.	Deposit removed, cu. yards.	
January	....	.....	.....	....	.....	....	.....	.....	27	308.81	7	12,000	67.15	.....	1	455	487.56	863.52
February	....	.....	.....	....	.....	....	.....	.....	10	101.11	1	450	83.41	.....	1	315	292.15	476.67
March	....	.....	.....	....	.....	5	750	42.57	16	182.48	54	11,654	38.51	.....	1	751	1,381.00	1,634.56
April	....	.....	.....	17	21.43	3	950	35.19	15	169.96	51	12,600	25.93	.....	1	1,316	1,741.26	1,993.77
May	2	350	4.30	....	.....	12	525	67.93	18	201.33	10	21,000	13.78	25	1	1,283	1,312.15	1,599.49
June	....	.....	.....	17	22.63	1	250	22.23	....	.....	9	1,800	44.19	25	1	1,498	1,315.26	1,404.31
July	2	275	12.00	....	.....	....	.....	.....	24	164.04	62	12,400	42.23	.....	2	1,688	1,467.18	1,685.45
August	....	.....	.....	17	27.60	1	300	11.11	26	285.56	38	8,000	24.44	30	2	1,745	1,579.63	1,928.34
September	3	420	9.00	....	.....	....	.....	.....	20	116.74	126	25,200	53.41	.....	2	1,636	1,430.03	1,609.18
October	....	.....	.....	....	.....	....	.....	.....	22	193.58	81	16,120	59.27	46	1	1,513	1,373.00	1,625.85
November	....	.....	.....	....	.....	....	.....	.....	5	66.34	9	.....	12.45	22	1	1,188	749.41	828.20
December	....	.....	.....	....	.....	1	.....	5.56	4	54.62	13	.....	54.62	.....	1	221	140.45	255.25
Totals	7	1,045	25.30	51	71.66	23	2,925	184.59	187	1,844.57	461	121,224	509.39	148	15	13,609	13,269.08	15,904.59

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In addition to the accompanying form, the following work has been performed by the sewer maintenance department for the year 1902:

Work on Sewers.

Examined all sewers for condition and deposit, and all gates, slots, and sumps for same forty-nine times. Repaired fourteen sewers, twenty-eight holes over sewers, two cellars on account of leaky basins, four connections, six sidewalks at basins, and the lime-house at the precipitation tanks. Reset 190 manhole frames. Replaced fifty-three manhole frames and fifty-nine covers, three tide gates and five track grates. Cut in thirteen steps in manholes, nine six-inch, two five-inch and one ten-inch connections in sewers. Removed roots from 125 sewers; pumped out one cellar; built three manholes; pounded and seeded banks, and graded at brick station and precipitation tanks. Put in one twelve-inch by eight-inch branch; cleaned river at Livingstone street; flushed out six-inch pipe at Doyle avenue and Camp street three times.

Work on Basins.

Flushed 1,926 traps and 1,787 chutes. Reset sixty-two traps. Repaired fifty-six basins, forty-four holes, fifty-four chutes, seven basin connections, and the sidewalk around 145 basin heads with gravel. Replaced twenty-two covers, one inlet stone, and one basin frame; thawed out fourteen chutes; removed snow from 9,378 inlets; built one basin and removed one basin head.

Old Work.

Repaired and extended thirty old drains; repaired three culverts, six old chutes, and one outlet to old drain. Leveled fifteen dumps. Built fourteen chutes, four basins, two manholes, one culvert, and retaining wall on Chalkstone avenue, near Manton avenue, and one storm sewer on Charles street 257 feet long.

Miscellaneous Work.

Flushed 103 private drains, charged $247.50, and one well, $2.75; thawed out connection, $4.25, and pipe for health department, $4.45; pumped out five cellars, $80.85; flooded one pond, $4.00, filled cistern, $2.00; reset eight manhole frames, and thawed out paving for Union Railroad Company, $44.75, cleaned sewer for F. E. Shaw, $107.13; built chute on West Exchange street for A. Carpenter, $3.25; filled gas tank for Providence Gas Company, $5.25; cut in connection for John Freeman, $3.75; altered basin and built basin and chute for Brown & Sharpe Manufacturing Company, $64.67, built basins and manhole, and altered basin for New York, New Haven & Hartford Railroad Company, $117.72; built basin on Power street for Marsden J. Perry, $44.13; laid connection to curb for George Welch, $12.01.

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For Improved Sewerage Department: Carted seventy-one barrels of cement to section 26, and 106 press plates to precipitation tanks; built manhole at press house at precipitation tanks; set eight bound-stones.

For Water Works Maintenance Department: Removed ashes from Hope station six times; pounded and seeded banks at Sockanosset and Hope reservoirs; repaired old drain on South street on account of water main; reconnected drinking trough at Hartford avenue and Killingly road; did repairing at Hope station, and repaired well at Hope reservoir; built connections and connected with sewer twenty-one car sprinklers; set thirteen bound-stones; repaired old drain on Thurbers avenue, and reset six water-gate frames.

For Bridge Department: Removed debris from river at Mill street.

For P. Tierney: Cut in connection at R. I. Hospital Trust Company building on Westminster street.

For Sewer Construction Department: Built seventeen chutes, nineteen basins, and two manholes; abandoned one chute, one six-inch connection, one manhole and five basins; connected two basins.

For Highway Department: Repaired four connections; reset four manhole frames.

Carted coal for contingencies, coal account.

The amount of bills approved on account of sewers from October 1 to December 31, 1902, inclusive, was as follows:

For Construction.

Regular appropriation	$24,065 44	
Improved sewerage appropriation	66,447 02	
		$90,512 46

Charged as follows:

Material	$7,683 23
Contract reservations	1,309 00
Testing cement	277 36
Sundries	175 75
Additional catch-basins	120 26
Tools	35
Sewer in Bellevue avenue, from near Elmwood to Bucklin street	9 00
Sewer in Doane and Everett avenues	1,275 48
Sewer in Douglas and Camden avenues	5,492 93
Sewer in Hamlin street, from Elmwood avenue to Roger Williams park	9 00
Sewer in Laurel Hill avenue, from Pocasset to Plainfield street	7 50
Amount carried forward	$16,359 86

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Amount brought forward	$16,359 86
Sewer in Massachusetts avenue from Virginia to Broad street	1,284 32
Sewer in Moses Brown street, from Angell to South Angell	319 85
Sewer in Oriole and Rhode Island avenues	769 83
Sewer in Oxford street, from near Eddy to Allens avenue	813 40
Sewer in Phillips street, from near Hope to Morris avenue	1,784 32
Sewer in President avenue, from Arlington to Wayland	2,101 46
Sewer in Primrose, Walnut and Byron streets	1,450 27
Sewer in Sears avenue, from Atwells to Rangeley,	2,480 91
Sewer in Smithfield and Branch avenues	12 00
Sewer in Suffolk street, from Salina to Admiral	3 25
Sewer in Summit avenue, from Fourth street to Seventh	1,474 12
Sewer in Tenth street, from North Main to Highland avenue	5 00
Sewer in Woodbine and Grand View streets	18 00
Sewer in Moshassuck Division, Section 27	27,687 67
Sewer in Moshassuck Division, Section 28	23,951 67
Sewer in Seekonk Division, Section 29	9,996 53
	$90,512 46

For maintenance, ... $29,993 23

Classified as follows:

Cleaning and repairing old drains	$4,134 86
Cleaning basins and sewers	4,125 46
Repairing basins and sewers	2,434 63
Use of water	900 00
Inspection of connections	648 44
Tools	554 44
Barn expenses	519 71
Superintendent's salary	427 43
Sundries	373 62
Horses, wagons, harnesses, etc	151 45
Office expenses	70 06
Cleaning private connections	56 00
Telephone lines	35 93
Car fares	20 00
Filling cisterns	18 75
Repairs on gate house	4 36
Repairs on buildings, sewer maintenance yard	3 03
Amount carried forward	$14,478 17

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Amount brought forward	$14,478 17

ERNEST STREET STATION.

Coal and wood	2,582 29
Engineers	760 23
Cleaning screens	609 01
Cleaning and repairing pumps	550 39
Firemen	407 23
Lights	51 57
Supplies	43 89
Care of grounds	42 16
Care of buildings	23 91
Repairs on boilers	5 20
Repairs on buildings	50
Repairs on engines	38

SEWAGE PRECIPITATION TANKS.

Chemicals	4,238 64
Miscellaneous supplies	1,814 71
Labor in sludge disposal	1,743 68
Labor on sewage precipitation	1,315 95
Electrical power	644 02
Watchmen	328 25
Repairs on buildings	124 89
Fuel	100 17
Repairs on machinery	84 57
Lights	43 42
	$29,993 23

The *net* expenditure for construction of sewers to December 31, 1902, inclusive, was $7,266,445 11

The *net* expenditure for maintenance of sewers to December 31, 1902, inclusive, was $925,057 37

Bills deposited with the city treasurer for collection from October 1 to December 31, 1902, inclusive, amounted to . . $1,547 19

As follows:

Miscellaneous work	$462 82
Cleaning private connections	76 25
Pumping out cellars	22 50
Sewer material	974 92
Laying drains to curbstones	9 00
Testing cement	1 70
	$1,547 19

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $1,519 99

As follows:

Miscellaneous work	$447 57
Cleaning private connections	66 00
Pumping out cellars	22 50
Sewer material	974 92
Laying drains to curbstones	9 00
	$1,519 99

HIGHWAYS.

Two permits to open streets were issued during the quarter.

October 2d, the offer of Joseph Newall & Company to furnish and deliver 50,000 granite paving blocks for the sum of $1.20 per square yard, was accepted.

November 18th, the proposal of Westerly Granite Works to furnish and deliver 30,000 granite paving blocks for the sum of $1.20 per square yard, was accepted.

December 4th, the proposal of Crabtree & Havey, of West Sullivan, Maine, to furnish and deliver 10,000 lineal feet of granite curbing, was accepted. Amount, $5,000.00.

Six hundred and sixty-three notices to build or repair sidewalks were served on the abutting owners during the year 1902. The work, including ninety-eight brought over from the preceding year, was done as follows:

By the abutting owners	522
By the city, at the expense of the abutting owners	76
Time for doing work extended	29
Work not done	134

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The length of received streets December 31, 1902, was 230.23 miles, measured on street lines and to street line intersections. But, as it is customary in street construction or street paving to complete the work to the curb line intersection, the lengths in the following tables are measured on those lines and sub-divided as follows:

Received streets	235.67 miles.
Streets curbed and built	159.57 miles.
Streets not curbed but the roadway macadamized or graveled	29.27 miles.
Streets paved	32.52 miles.
Streets received but not improved	14.31 miles.
Total	235. 67 miles.

The actual area of street pavement is 715,833.2 square yards. If this is estimated to an average width of roadway of 30 feet, it would be equal to 40.67 lineal miles and is subdivided as follows:

Granite blocks	30.36 miles.
Cobble	4.81 miles.
Asphalt	4.61 miles.
Vulcanite	.47 miles.
Brick	.42 miles.

In addition to the general patching necessary to maintain the streets in good repair, the following work has been done during the year ending December 31, 1902, namely:

New streets built	11,063.00 linear feet.
Curbing set	22,126.00 linear feet.
Streets rebuilt	7,625.00 linear feet.
Streets resurfaced	158,275.00 linear feet.
Streets graded	8,175.00 linear feet.
Block pavement laid	6,295 00 square yards.
Cobble pavement laid	1,818.C0 square yards.
Asphalt pavement	0.00 square yards.
Asphalt pavement relaid	1,591.00 square yards.
Cobble pavement relaid	2,993.00 square yards.
Block paving relaid	11,475.00 square yards.
Brick paving relaid	126.00 square yards.

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Asphalt gutters and roadways built	609.00 square yards.
Concrete sidewalks laid	1,522.00 square yards.
Concrete sidewalks patched and top-dressed	4,181.00 square yards.
Crushed stone used	61,115.00 tons.
Screened gravel used	7,325.00 cubic yards.

Of the above amount of pavement relaid, the cost of relaying 3,946 square yards, amounting to $3,872.79 was paid by the corporations for which the work was done.

During the year the following streets, aggregating 29.976+ miles, have been resurfaced, namely.

A street, from Lester to Rice.
Abbott street, from North Main to Camp.
Academy avenue, from Chalkstone to Smith street.
Acorn street, from Atwells avenue to the railroad.
Africa street, from Arthur avenue to America street.
Amherst street, from Manton avenue to Putnam street.
Appleton street, from Delaine to Julian.
Atlantic avenue, from Broad street to Hamilton.
Bassett street, from Chestnut to Plain.
Battey street, from Westminster to Broadway.
Bergen street, from Regent avenue to Chalkstone.
Blackstone boulevard, in part from Irving avenue to city line.
Borden street, from Eddy to Plain.
Bourne street, from Broadway to Aborn street.
Bradford street, from Broadway to West Exchange street.
Branch avenue, from the railroad bridge to Smithfield avenue.
Branch avenue, from Veazie street to near Douglas avenue.
Branch avenue, from Charles street to Hawkins.
Bridgham street, from Westminster to Carpenter.
Broad street, from Trinity square to Friendship street.
Brook street, from Power to Hope.
Burnett street, from Elmwood avenue to Bucklin street.
Calverly street, from Smith to Promenade.
Camden avenue, from Vale street to Eaton.
Canton street, from Regent avenue to Chalkstone.
Chalkstone avenue, from Davis park to Lisbon street.
Chalkstone avenue, from Harold street to Academy avenue.
Chalkstone avenue, from Camden to Candace street.
Charles street, from Admiral to West River street bridge.
Codding street, from Cranston to Central.
Conanicut street, from Ashburton to Charles.
Congdon street, from Angell to Halsey.
Crary street, from Eddy to Plain.
Cypress street, from Morris avenue to Elmgrove.

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Dartmouth avenue, from Broad street to Elmwood avenue.
Davis street, from Smith to Orms.
Dean street, from Westminster to Fountain.
Dexter street, from Westminster to Cranston.
Dexter street, from Potters avenue to Cromwell street.
Diamond street, from Cranston to Susan.
Dodge street, from Cranston to Westminster.
Douglas avenue, from Orms street northerly 500 feet.
Dover street, from Academy avenue to Carleton street.
Dudley street, from Plain to Gay.
Dudley street, from Friendship to Prairie avenue.
Eaton street, from Douglas avenue to Smith street.
Elmgrove avenue, from Doyle to Cypress street.
Federal street, from Vinton to Knight.
Federal street, from Dean to Arthur avenue.
Fenner street from Westminster to Broad.
Franklin street, from Westminster to Fountain.
Gardner street, from Camp to Knowles.
Gesler street, from Vinton to Ridge.
Globe street, from Hospital to Plain.
Goddard street, from Candace to Douglas avenue.
Grove street, from Tobey to Vinton.
Harold street, from Valley to Chalkstone avenue.
Hemlock street, from Valley to Promenade.
Hidden street, from Prospect to Brown.
Holden street, from Promenade to Smith.
Hope street, from Blackstone boulevard to Gilheeny.
Hope street, from Morris avenue to Cypress street.
Hope street, from Angell to Benevolent.
Hospital street, from Point to Bassett.
Jefferson street, from Smith to Common.
Jenkins street, from North Main to Camp.
Judith street, from Lena to Magnolia
Julian street, from Amherst to Manton avenue.
Killingly avenue, from Plainfield street to Hartford avenue.
Knight street, from Atwells avenue to Broadway.
Knight street, from Broadway to Westminster street.
Knight street, from Westminster to Cranston.
Knowles street, from Jenkins to Cypress.
Latham street, from Plainfield to Lena.
Lemon street, from Fountain to Carpenter.
Lena street, from Judith to Atwood.
Lester street, from Harrison to Pearl.
Lime street, from Fountain to Carpenter.
Linden street, from Friendship to West Clifford,
Lippitt street, from North Main to Camp.
Lloyd avenue, from Elmgrove to Slater.
Lockwood street, from Friendship to Broad.
Manton avenue, from Florence street to Amherst.
Major street, from Broad to Central.
Massachusetts avenue, from Virginia to Broad street.

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Meader street, from Marshall to Tobey.
Morris avenue, from Doyle to Cypress street.
Myrtle street, from Pine to West Clifford.
Niantic avenue, from Cranston street to Reservoir avenue.
North Main street, from Frost to city line.
O'Neil street, from Douglas avenue to Veazie street.
Parkis avenue, from Broad street to Elmwood avenue.
Pavilion avenue, from Prairie to Eddy street.
Penn street, from Knight to Vinton.
Penn street, from Ridge to Knight.
Plain street, from Potters avenue to Rugby street.
Pleasant street, from North Main to Ivy.
Pond street, from Fenner to Pearl.
Portland street, from Broad to Friendship.
Prairie avenue, from Dudley street to Lockwood.
Reservoir avenue, in part from Elmwood to Pontiac street.
Regent avenue, from Harold street to Academy avenue.
River avenue, from Chalkstone to Smith street.
River avenue, from Valley street to Allston.
River avenue, from Douglas to about 500 feet westerly.
Royal street, from North Main to Knowles.
Rugby street, from Plain to Pavilion avenue.
Seventh street, from North Main to Highland avenue.
Smith street, from Candace to Camden avenue.
Smith street, from Candace to Gaspee.
Smithfield avenue, from Northup to city line.
South street, from Richmond to the Providence river.
Spruce street, from Dean to Lily.
State street, from Smith to Orms.
Thayer street, from Transit to Arnold.
Tobey street, from Westminster to Broadway.
Unit street, from Manton avenue to 425 feet northerly.
Valley street, from Ayrault to River avenue.
Veazie street, from Douglas avenue to Branch.
Veazie street, from Branch avenue to Woodward road.
Warren street, from Dexter to Harrison.
Wesleyan avenue, from Broad street to Elmwood avenue.
West Exchange street, from Aborn to Brayton avenue.
West Friendship street, from Broad to Elmwood avenue.
West Park street, from Calais to Holden.
Wilson street, from Dexter to Harrison.
Woodward road, from Veazie street to 500 feet northerly.

1.444 + miles of streets have been graded during the year, namely:

Beacon avenue, from Point street to Friendship.
Knight street, from Gesler to Atwells avenue.
Manton avenue, from Unit street to Chalkstone avenue.
Oxford street, from Eddy to Allens avenue.
President avenue, from Arlington to Elmgrove.

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1.548 + miles of streets have been graded during the year, namely:

Camden avenue, from Vale street to Eaton.
Cemetery street, from Frost to the West river.
Chatlett street, in part.
Douglas avenue, from Chad Brown street to Admiral.
Eastwood avenue, from Heath street to Ralph.
Eastwood avenue, from Laurel Hill to Merino street.
Moses Brown street, from Angell to South Angell.
Smithfield avenue, from Branch to the West river.

.284 + miles of streets have been repaved during the year, namely:

South Main street, from Transit to Pioneer lane.
Washington street, from Aborn to Jackson.

During the quarter, the following work was completed:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
Jan. 16, 1902,	*President avenue, north side, from Wayland about 180 feet westerly.*
Oct. " "	*Oxford street, from Devine westerly about fifty feet.*
" " "	*Tenth street, from North Main to Highland avenue.*
" " "	*Bellevue avenue, from Elmwood to Bucklin street.*
" " "	*Calais street, from Edith to West Park.*
" " "	*Woodbine street, from North Main to Camp.*

The following work was in progress December 31, 1902, namely:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.	
May 16, 1901,	*Douglas avenue, from Chad Brown street to Admiral.*

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Date of order.		
Oct. 16,	1902,	*Primrose street, from Vinton to Vernon.*
Nov. 20,	"	*Grand View street, from Knowles to North Main.*
" "	"	*Oriole avenue, from end of curb to Rhode Island avenue; Rhode Island avenue, from Oriole to Angell street.*

To Grade and Build.

No. of resolution.	Date of approval.	
232.	July 7, 1902,	*Manton avenue, from Unit street to Chalkstone avenue.*

The following work, ordered by the board of aldermen and city council, had not commenced December 31, 1902, namely:

Sidewalks to be Curbed and Gutters Paved.

Date of order.		
Oct. 16,	1902,	*Laurel Hill avenue, from end of curbing to Pocasset avenue.*
" "	"	*Bolander street, from Abbott to Grand View.*
Nov. 20,	"	*Egan street, from Manton avenue to the bridge.*
" "	"	*Suffolk street, from Admiral to Salina.*
" "	"	*Phillips street, from Hope to Morris avenue.*
Dec. 18,	"	*Sears avenue, from Atwells to its northerly termination.*
" "	"	*Lenox avenue, from Melrose street to Hamilton.*
" "	"	*Hamlin street, from Roger Williams park to Elmwood avenue.*

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To Pave with Granite Blocks.

No. of resolution. Date of approval.

379. Oct. 4, 1901, *Branch avenue, from Veazie street to bridge near Vandewater.*

Bills approved on account of highways from October 1 to December 31, 1902, inclusive, amounted to:

Regular appropriation	$89,259 52	
Special appropriation	2,531 45	
		$91,790 97

Classified as follows:

Crushed stone — material and labor	$22,317 86	
Repairs on unpaved streets	18,475 23	
Cleaning streets	14,003 82	
Stone — paving and crosswalk	3,651 17	
Barn expenses	3,099 17	
Removing snow and ice	2,912 29	
Blacksmith and wheelwright shop	2,800 14	
Repairs on paved streets	2,281 28	
Repairs on stone crushers	1,594 91	
Tools, implements, etc.	1,265 93	
Steam rollers — repairs and supplies	1,154 66	
Labor on material	877 18	
Superintendent's salary	427 43	
Building driveways, etc	325 91	
Watering streets	205 30	
Horses, wagons, harnesses, etc	199 21	
Watchman at city yard	150 86	
Office expenses, city yard	121 40	
Sundries	102 37	
Repairs on buildings, highway yard	29 67	
Fencing streets — material and labor	22 59	
Telephone lines	5 35	
		$76,023 73

New Work — Building and Rebuilding Streets, Etc.

Sidewalks Curbed and Gutters Paved.

Bellevue avenue, from Elmwood to Bucklin street	$998 73	
Calais street, from Edith to West Park	517 67	
Amounts carried forward	$1,516 40	$76,023 73

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Amounts brought forward	$1,516 40	$76,023 73
Douglas avenue, from Chad Brown street to Admiral	2,531 45	
Grand View street, from Knowles to North Main	1,111 36	
Oriole avenue, from end of curb to Rhode Island avenue, and in Rhode Island avenue from Oriole to Angell street	331 40	
Oxford street, from Devine, westerly about 50 feet to present curbing	319 10	
President avenue, northerly side, from Wayland westerly about 180 feet	778 93	
Primrose street, from Vinton to Vernon	550 87	
Tenth street, from North Main to Highland avenue.	942 48	
Woodbine street, from North Main to Camp	2,660 24	
		10,742 23

PAVE WITH GRANITE BLOCKS.

Promenade street, from Park to Leland	1,011 55

GRADE.

Manton avenue, from Unit street to Chalkstone avenue	4,013 46
	$91,790 97

Bills deposited with the city treasurer for collection from October 1 to December 31, 1902, inclusive, amounted to . . . $7,683 81

As follows:

Labor and material	$3,609 83
Rhode Island Company, for rebuilding South Main street	2,649 36
Blacksmith and harness work for other departments	655 68
Old scrap iron	250 49
Street sweepings	232 75
Boarding horses for other departments	185 90
Manure from barn	72 00
Discharging cargoes at city wharf	10 50
Removing trees	9 50
Oil barrels	7 80
	$7,683 81

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During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $7,415 05

As follows:

Labor and material	$3,906 21
Rhode Island Company, for rebuilding South Main street	1,726 80
Blacksmith and harness work for other departments	655 68
Boarding horses for other departments	363 57
Street sweepings	261 75
Old scrap iron	250 49
Use of steam rollers	105 00
Manure from barn	72 00
Removing trees	39 50
Use of hoisting engine	26 25
Oil barrels	7 80
	$7,415 05

SIDEWALKS AND CURBING.

Bills approved on account of sidewalks and curbing from October 1 to December 31, 1902, inclusive, amounted to . . . $4,073 18

Charged as follows:

Granite curbing	$1,861 34
Concreting sidewalks	1,358 68
Repairing sidewalks and gutters	853 16
	$4,073 18

Bills deposited with the city treasurer for collection from October 1 to December 31, 1902, inclusive, amounted to . . $661 89

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As follows:

Granite curbing	$611 29
Concreting sidewalks	50 60
	$661 89

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $722 01

As follows:

Granite curbing	$671 41
Concreting sidewalks	50 60
	$722 01

CITY ENGINEER.

Bills approved on account of the city engineer's department from October 1 to December 31, 1902, inclusive, amounted to . $10,680 31

Charged as follows:

Salary — city engineer	$1,125 00
Salaries of assistants	8,143 86
Salaries of clerks	702 97
Car fares	402 65
Supplies — drawing material, etc	177 70
Instruments and repairs	124 00
Telephone lines	2 68
Sundries	1 30
Meteorological instruments and repairs	15
	$10,680 31

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BRIDGES.

The following work was in progress at the end of the quarter, namely:

To Build Bridge and Approaches.

No. of resolution. Date of approval.

220. June 20, 1902, *Over Woonasquatucket river at Egan and Chatlett streets.*

The following work had not commenced at the end of the quarter, namely:

No. of resolution. Date of approval.

411. Dec. 19, 1902, *Exchange bridge on its northerly side; Bridge over the river between Exchange and Burnside bridges; River walls between Burnside and Exchange bridges.*

Bills approved on account of bridges from October 1 to December 31, 1902, inclusive, amounted to $7,734 61

Charged as follows:

Atwells avenue bridge	$16 69
Barn expenses	129 72
Branch avenue bridge	188 67
Building at city yard	21
Burnside bridge	14 52
Car fares	50 00
Charles street railroad bridge	12 00
Crawford street bridge	41 95
Eagle street bridge	3 75
Exchange bridge	53 47
Horses, wagons, harnesses, etc	8 88
Amount carried forward	$519 86

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Amount brought forward	$519 86	
Lumber, hardware, etc.	14 95	
Manton avenue bridge	143 82	
Mill street bridge	3 60	
Point street bridge	1,289 83	
Red bridge	131 76	
Rent of keeper's house — Washington bridge	30 00	
Salaries — Point street bridge	978 00	
Salaries — Red bridge	510 07	
Salaries — Washington bridge	499 27	
Smith street bridge	1 50	
Sundries	241 55	
Telephone lines	2 68	
Tools	48 53	
Washington bridge	3,302 19	
Washington row bridge	3 32	
West River street bridge	3 76	
Weybosset bridge	9 92	
	$7,734 61	

Bills deposited with the city treasurer for collection from October 1 to December 31, 1902, inclusive, amounted to . . $9 40

As follows:

Cement barrels	$5 90
Old lumber	3 50
	$9 40

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $9 40

As follows:

Cement barrels	$5 90
Old lumber	3 50
	$9 40

Bills approved for account of building the Merino bridge, from October 1 to December 31, 1902, inclusive, have been paid from the special appropriation for that work, to the amount of $16,062 82

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PUBLIC LIGHTS.

Bills approved on account of the public lights from October 1 to December 31, 1902, inclusive, amounted to $73,413 86

Charged as follows:

Arc lights	$55,882 09
Incandescent lights	11,313 71
Welsbach lights	5,924 97
Salaries	188 57
Gas for street lights	67 41
Setting and removing gas posts	34 96
Horses, wagons, harnesses, etc.	1 85
Office furniture and supplies	30
	$73,413 86

Bills deposited with the city treasurer for collection from October 1 to December 31, 1902, inclusive, amounted to . . . $20 99

As follows:

Setting and removing gas posts	$14 75
Old lead	4 24
One common lantern	2 00
	$20 99

During the quarter, coupons from bills collected have been returned by the city treasurer and receipted for to the amount of $20 99

As follows:

Setting and removing gas posts	$14 75
Old lead	4 24
One common lantern	2 00
	$20 99

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PUBLIC WORKS OFFICE.

Bills approved on account of the public works office from October 1 to December 31, 1902, inclusive, amounted to . . . $5,201 88

Charged as follows:

Salaries of commissioner and secretary	$1,925 00
Salaries of office assistants	3,081 80
Office supplies	189 09
Installation of card system	3 31
Telephone lines	2 68
	$5,201 88

CONTINGENCIES.

Bills approved for the inspection of electric wires from October 1 to December 31, 1902, inclusive, have been paid from the appropriation for contingencies to the amount of $4 50

ROBERT E. SMITH,

Commissioner.

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